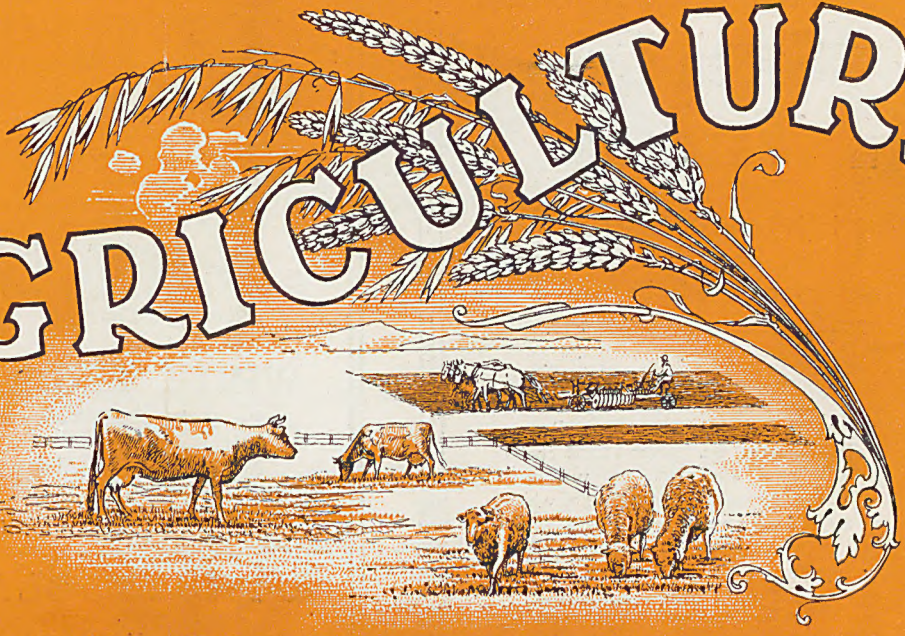
VOL. XXIX. [Registered at the General Post Office, Melbourne, for transmission by Post as a Newspaper.] PART 6.

THE JOURNAL OF THE DEPARTMENT OF AGRICULTURE OF VICTORIA, AUSTRALIA.

NATIONAL MUSEUM OF VICTORIA



JUNE, 1931. PRICE, THREEPENCE

A New Yates Publication

"Grassland and Green Crop Farming"

THIS book is published at 1/- post free, but a free complimentary copy will be sent to any bona fide grazier or farmer on request.

IT contains 136 pages, is profusely illustrated, and summarizes all the most up-to-date information on Pasture Improvement, &c. Over 12,000 copies have been distributed, and we have received a number of comments of which the following are typical:—

Mr. F. T. W——, ARMIDALE. 5.5.31.

"I have received a complimentary copy of your book, entitled 'Grassland and Green Crop Farming,' for which I am much obliged; please accept my thanks for same. Those to whom I have shown the book are very favourably impressed with it, and I congratulate you upon the publication of such an interesting and instructive volume. I would be glad if you would send one to my manager."

Mr. J. H. A. M——, URBENVILLE. 27.4.31.

"I have just received a copy of your excellent little book, 'Grassland and Green Crop Farming,' for which I thank you very much. It preaches a gospel in which I have the greatest faith. I hope in the near future to put that faith into practice."

Mr. W. P. T——, WAGGA. 30.4.31.

"I wish to express my appreciation for the excellent book you recently forwarded me, re Grassland Improvement, &c. It contains a mine of most instructive and useful information which, at a later date, I hope to take advantage of. Thanking you for same."

Arthur Yates & Co. Ltd.

Australia's Greatest Seed House

184-6 SUSSEX STREET, SYDNEY

Address Mail Box: 2707-C, G.P.O., SYDNEY

Department of Agriculture

POULTRY for SETTLERS

ORDERS FOR COCKERELS for delivery from March may now be booked from the Poultry Pens at the Central Research Farm, Werribee. Settings of Eggs can be supplied in season.

1st July to 1st October orders are booked in rotation.

WHITE LEGHORNS

No. 1—Pure Cosh World's Record Strain.

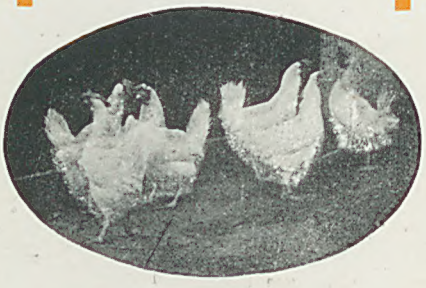
No. 2—From Single Tested Hens with scores of 260 to 285 eggs, Single Mated to Cocks bred from Hens with scores of 275 to 301 eggs.

UTILITY BLACK ORPINGTONS

Founded on Christie and Cullen Strains

No. 1—From Single Tested Hens with scores of 256 to 284 mated to Cockerels bred from Hens with scores of 272 to 313 eggs.

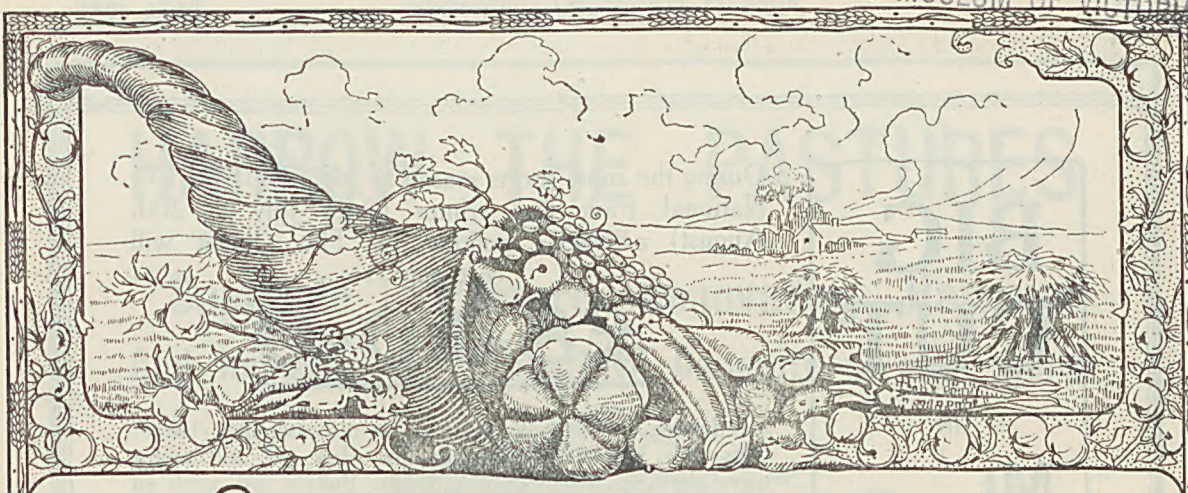
No. 2.—From Hens bred from above mated to Cockerels bred from Single Matings.



For Prices and Particulars apply to

The Manager, Research Farm, Werribee

NATIONAL MUSEUM OF VICTORIA



Contents. JUNE, 1931.

		PAGE
Federal Dairy Investigation—Committee's Report		265
Forestry and the Farm	*A. V. Galbraith*	277
Pyramid Farm Competition	*Report of Judges, L. C. Bartels, B.Agr.Sc., and M. Harvey*	283
"Hard Seeds" in Subterranean Clover	*J. E. Harrison, B.Agr.Sc.*	287
Tongala Farm Competition	*Report of Judges, L. C. Bartels, B.Agr.Sc., and R. G. Warden*	289
Orchard and Garden Notes	*E. E. Pescott, F.L.S.*	293
Stallion Register, 1930–31—Part 2		295
Books Received		299
Stallion Parades, Time-table, 1931		300
Standard Herd Records for Quarter ended 31st March, 1931		304
Calf-marking Scheme		316

Issued under the direction of the Hon. W. Slater, M.L.A., Minister of Agriculture.

COPYRIGHT PROVISIONS AND SUBSCRIPTION RATES.

The Articles in the Journal of the Department of Agriculture of Victoria are protected by the provisions of the Copyright Act. Proprietors of newspapers wishing to republish any matter are at liberty to do so, *provided the Journal and author are both acknowledged.*

The Journal is issued monthly. The subscription, which is payable in advance and includes postage, is 3s. per annum for the Commonwealth and New Zealand, and 5s. for the United Kingdom and Foreign Countries. Single copy, Threepence. Subscriptions should be forwarded to the Director of Agriculture, Melbourne.

BIG CUT IN Mt. Buffalo Winter Tariff!

During the snow sports season at MT. BUFFALO National Park this winter (24th July to 20th August) a week's holiday at The Chalet will cost only

£8-10-0

a reduction of nearly 25 per cent. in the customary charge. This new rate will still cover first class rail and motor travel between Melbourne and Mt. Buffalo and meals en route, as well as accommodation at The Chalet.

Early booking for the snow season is essential. You should call in at the Tourist Bureau (Queen's Walk, Melbourne), and book your accommodation ***RIGHT AWAY***

NOTE.—The new reduced £8-10-0 rate will also apply during the Christmas vacation fortnight. At other times throughout the year, the usual £6-15-0 rate will operate, covering rail and motor fares and meals, as well as accommodation.

INDEX TO ADVERTISEMENTS

FRONT SECTION

Alston, J., & Sons vi
Cockbill, J. vi
Cooper's Alboleum and Arsinette v
Harper, Robt., & Coy. Ltd. viii
International Harvester Coy. x
Meggitt's Linseed Meal ix
McKay, H. V., Massey Harris Pty. Ltd. ... iii
Nitrogen Fertilizers Pty. Ltd. vii
Rylands Bros. (Aust.) Ltd. iv
Trustees, Executors, and Agency Coy. ... iv
Victorian Railways ii
Wells, W., Dairy Machinery Specialist ... vi

BACK SECTION

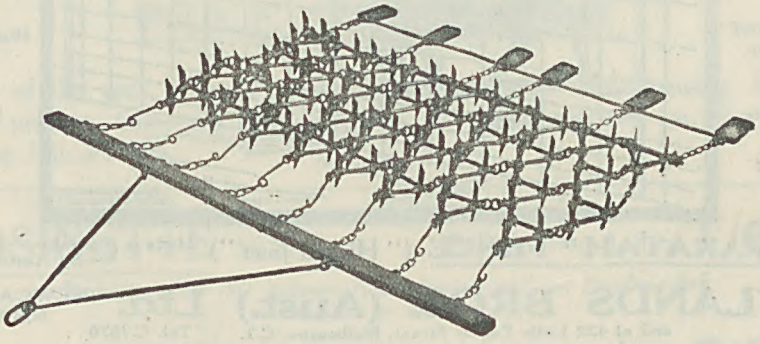
Australian Cement Ltd. xii
C.O.R. xviii
Commonwealth Fertilizers & Chemicals Ltd. xvii
Dandy Poultry Food xviii
Danks, J., and Son Pty. Ltd. xvii
Ford Coy. of Australia xiii
Gerrard Wire-Tying Machines xi
Gippsland & Northern Co-operative Coy. (Seeds) xix
Kidd, M. T., Barker's Creek (Poultry) ... xi
Law, Somner Pty. Ltd. xvi
Lysaght Bros. & Coy. Ltd. xiv
National Trustees, Executors, &c., Coy. Ltd. xvi
Nightingale, A., Nursery xix
Red Polls for Sale xvi
Shell Company of Australia xi
State Accident Insurance Office xx
State Savings Bank xiv
Texaco Kerosene & Oil xv
Trewhella Bros. Pty. Ltd. xix

HARROW THE PASTURES

WITH

"Sunblade" Pasture Renovating Harrows

And Increase the Productive Capacity of your Herd



Harrowed Pastures provide richer feed and carry more stock. Stock droppings are pulverised and spread. The soil is loosened and aerated. Space is created for available seed, and a denser sole is promoted in the pasture. Moss is eradicated. Matted root growth is stimulated.

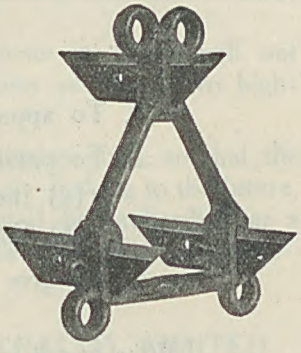
WHEN TOPDRESSING PASTURES, HARROWING IS A NECESSITY

"Sunblade" Pasture Renovating Harrows

2 HORSE SET CUTS 6 ft.——3 HORSE SET CUTS 8 ft.

Lines of cultivation approximately 1 inch apart

THE TRIPODS are coupled together with hinged fasteners of crucible steel. BLADES are of hardened tyne steel, sharpened. They are pinned securely in the tripod as here illustrated, projecting 4 inches on one side and 2 inches on the other. SPREADER BARS and DRAG WEIGHTS are attached at rear.



SUNSHINE FARM IMPLEMENTS!

REDUCED PRICES! Farmers needing an implement or machine are requested to ask for a copy of our Reduced Price List. Duplicates also reduced.

H. V. McKAY MASSEY HARRIS PTY. LTD.

(SUNSHINE SECTION)

Sunshine Harvester Works, Sunshine

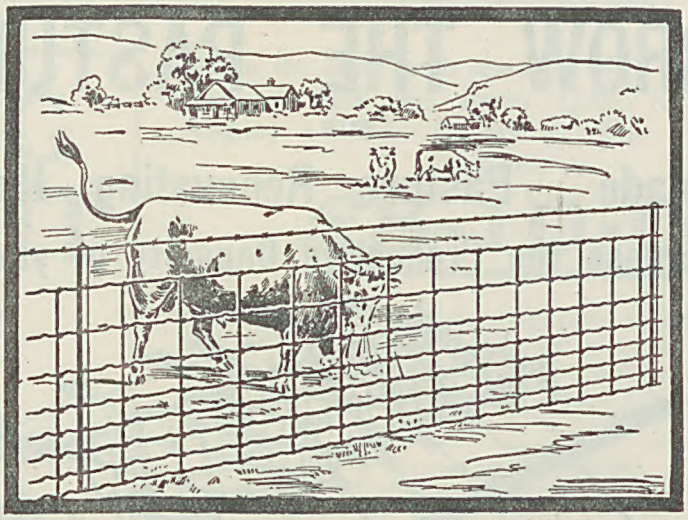
"HUH! IT'S 'WARATAH'!"

SOLVES SETTLERS' PROBLEMS

IT IS—

FIRE PROOF
RUST PROOF
WHITE ANT PROOF
CATTLE PROOF
SHEEP PROOF
PIG PROOF

Erection Costs are Low—
Maintenance Costs are Nil



Made in Three Types :
(All heavily galvanized)

SPECIAL HEAVY
Med. Temper Steel Wire

TYEASY HIGH TENSILE
High Carbon Steel —light, cheap, strong.

STANDARD
Medium Tempered

The "WARATAH" FENCE ("Hinged Joint") Made in Australia—For Australians —By Australians

RYLANDS BROS. (Aust.) Ltd. NEWCASTLE N.S.W.
and at 422 Little Collins Street, Melbourne, C.1. Tel. C.7870

From the Finest B.H.P. NEWCASTLE STEEL

IDEAS FOR YOUR WILL

The main points are—

1. To appoint a permanent and reliable Executor
2. To provide for your wife and family—
   (*a*) Income to your wife
   (*b*) Capital to your children
3. To give general instructions to your Executor

Write or call for our Booklet ***"The Making of a Will"***

THE Trustees Executors & Agency Co. Ltd.

(THE PIONEER TRUSTEE COMPANY OF AUSTRALIA)

412 Collins Street, Melbourne, C. 1

To Fruit Growers

IMPORTANT NOTICE

PRICE REDUCTION

In view of the very adverse conditions affecting the Fruitgrowing Industry at the present time, we have decided to reduce prices for the coming season as follow:—

ARSINETTE 56-lb. Cases .. Reduced from 1/8 to **1/6** per lb.

Please remember that Arsinette is an Arsenate of Lead Powder which requires no spreader

ALBOLEUM

40-gall. Drums .. Reduced from 7/- to **6/3** per gall.

5-gall. Drums .. Reduced from 7/6 to **6/9** per gall.

Alboleum is the Original White Oil Emulsion manufactured in Australia

(As usual, Freight and Sales Tax are additional to the above prices)

We give our absolute assurance that these alterations in prices will not involve any alteration in the standard or composition of these two high-grade products.

We are not able to effect any reduction in manufacturing costs, so that the reduction in prices is a serious matter to us, but we are looking to the future, and trust that the step we are taking will be accepted by orchardists as a practical recognition of the splendid support we have received from them.

WILLIAM COOPER & NEPHEWS (AUSTRALIA) LIMITED

4 O'CONNELL STREET. SYDNEY

Distributors for Victoria:

COOPER ENGINEERING COY. LTD.

542-456 LITTLE BOURKE STREET. MELBOURNE, C.1

A Trio of High-Grade Products for the Poultry Farm!

COCKBILL'S
MEAT MEAL
Highest in Feeding Values

COCKBILL'S
BONE GRIT
100 % Bone

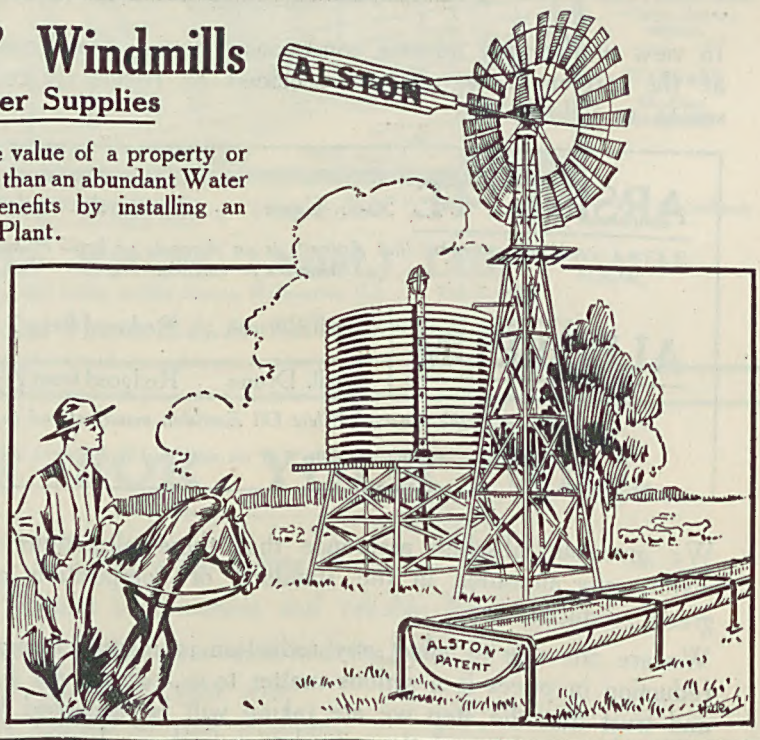
COCKBILL'S
BONE MEAL
A Finer Bone, suitable for Chicks

COCKBILL'S BLOOD AND BONE MANURE
Stands alone for Flower Garden, Vegetable Garden, and Lawn

Samples on request to **J. COCKBILL,** 407 Post Office Place, Melbourne
'Phone Central 2098

"ALSTON" Windmills
For all Water Supplies

Nothing adds more to the value of a property or the comfort of a homestead than an abundant Water Supply. Secure these benefits by installing an "ALSTON" Windmill Plant.



"ALSTON" Mills will run many months without attention, the lubrication and speed regulation are entirely automatic, doing away with worry and anxiety. The gears are machine-cut and run in oil, and working parts are all enclosed, ensuring ample protection and long life, together with very easy running.

And now
Prices have been reduced
offering still further inducements to install these famous Windmills.

Send for new 130-page Catalogue

James Alston & Sons
Pty. Ltd.
Queens Bridge, Sth. Melbourne
S.C. 4

The newest scientific invention for tattooing all kinds of stock.

PERMANENT QUICK
SAFE ——— SURE

Special Tattoo for Rabbits.

New Tattoo for branding pigs on the back.

Send for full range of leaflets, catalogues, &c.

CLINCH TATTOO

SPECIAL OFFER
to Bona-fide Purchasers

I am prepared, for a period of one month, to forward a CLINCH TATTOO fitted with the needle with the patented eye for TEST against any other instrument manufactured, and if the CLINCH is not superior, I will pay return postage.

Phone / 4280

W. WELLS, Dairy Machinery Specialist, 14-16 Willis St., Richmond, E.1, Vic.

GREATER PROFITS *from* PASTURES

The provision of feed for the Winter months is now receiving the consideration of the stockowner. Those who wish to take advantage of the latest methods of pasture management and manuring for Winter grass should try applications of Sulphate of Ammonia and Superphosphate combined with ROTATIONAL GRAZING during the coming Autumn and Winter. The following points are essential for success:—

A.—PASTURES MUST CONTAIN AMPLE WINTER-GROWING GRASSES, e.g., Perennial Ryegrass, Wimmera Rye, Cocksfoot, &c.

B.—AUTUMN APPLICATION OF SULPHATE OF AMMONIA AND SUPERPHOSPHATE. 1 cwt. Sulphate of Ammonia plus 1 to 2 cwt. Super. per acre in April or May *after* the soil has been well saturated by Autumn rains.

C.—APPLY WHEN GRASS IS GRAZED SHORT AND IS DRY.

D.—FOR EARLY SPRING GRASS, 1 to 1½ cwt. Sulphate of Ammonia per acre should be applied in July.

For further particulars apply

ADVISORY OFFICER,

NITROGEN FERTILIZERS Pty. Ltd.

360 COLLINS STREET, MELBOURNE, C.1

HARPER'S

"STAR" RICEMEAL

By reason of its high Fat Content, an indispensable Stock Food for Pigs

Approximate Chemical Analysis—

Protein	11·8 %
Fat	13·3 %
Carbo-Hydrates	48·4 %

DAIRYMEN !

You want the BEST and CHEAPEST FOOD for your Young Calves

Harper's "Star" Calfood

(Manufactured from Linseed, Maize, Oatmeal, Rice, and Barley)

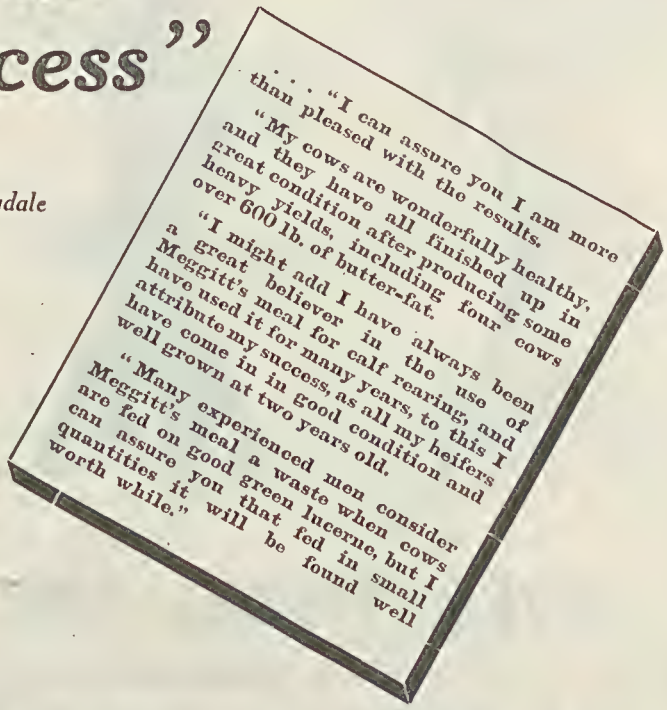
is being used on thousands of Farms throughout Australia

Obtainable from all leading Storekeepers

ROBERT HARPER AND COMPANY LIMITED

"To this I attribute my success"

Says Mr. MASTERS,
of Murraydale
(The well-known breeder of Jerseys)



Meggitt's Linseed Meal

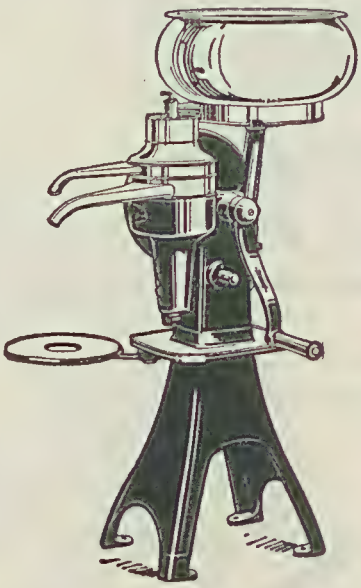
Obtainable from Local Storekeepers

or Sole Agents for Victoria and Riverina:

NEW ZEALAND LOAN & M.A. Co. Ltd.

Wool, Grain, Skin Store and Dairy Produce Brokers,
Stock and Property Salesmen,
Merchandise Suppliers

538-554 COLLINS STREET, MELBOURNE, C.1



EVERYTHING YOU WANT

In a Separator is in the

McCORMICK-DEERING

EVERYTHING you want—easy turning, clean skimming, long life—appearance, efficiency, cleanliness—they are all here in the McCormick-Deering—the Ball-Bearing Cream Separator that is setting new standards in cream separating all over Australia. Examine its features. Turn the handle. Put it to any test you like and you will soon realize why dairy farmers—and their families too—have unanimously voted the McCormick-Deering the world's greatest separator value. Ask your neighbours about it—ask the leading dairymen in your district—and they will tell you that when it comes to a question of efficiency, long life, close skimming, easy turning, or beauty, the McCormick-Deering Ball-Bearing Cream Separator stands alone in their estimation. The McCormick-Deering local agent will be pleased to demonstrate this modern cream separator to you or to give you full particulars. Be sure you drop in and see him when next in town, or write us direct.

INTERNATIONAL HARVESTER COMPANY OF AUSTRALIA PTY. LTD.

543-555 Bourke Street, Melbourne, C. 1

NATIONAL MUSEUM OF VICTORIA

The Journal of the DEPARTMENT of AGRICULTURE of VICTORIA

Federal Dairy Investigation

Committee's Report

The following is a summary of the report submitted by the Federal Dairy Investigation Committee and issued recently by the Commonwealth Government. The committee, which consisted of agricultural and economic experts from several States, made an exhaustive examination of the conditions under which the dairying industry is conducted in each State. The report examines in detail the causes of the different stages of progress reached in the several States, and outlines the committee's recommendations for the improvement of the present standards of efficiency. The personnel of the committee is as follows :— Prof. A. E. V. Richardson, Director Waite Agricultural Research Institute, South Australia (Chairman) ; Dr. S. S. Cameron, Director of Agriculture, Victoria ; Hon. J. Gunn, Commonwealth Director of Development ; Mr. L. T. MacInnes, Director of Dairying, New South Wales ; Mr. J. F. Murphy, Development Branch, Prime Minister's Department ; Prof. J. K. Murray, Queensland ; Mr. J. Rankin, Australian Dairy Council ; and Prof. S. M. Wadham, Melbourne University.

THE investigation was undertaken as part of a policy for intensive development of Australia's primary industries. The choice of the dairying industry to be first investigated pursuant to this policy is regarded as appropriate, as it is ideally suited to intensive development. It is conducted principally in areas of liberal rainfall, engages the whole or part-time attention of many thousands of farmers and their employees, is comprised of individually small units, and, in 1928-29, produced milk, butter, cheese, and bacon to the value of more than £40,000,000.

Intensive Development means Lower Costs.

The Committee points out that it is sound policy to aim at lower costs of production by the more efficient utilization of existing units and the capital invested in them. The magnitude of the industry is such that a relatively small increase in output from each dairy cow results in a large addition to the national income. An increase of only 10 lb. per cow would result in the addition to the income of Australian dairy farmers of £1,500,000 per annum with butter-fat at 1s. 3d. As far greater increases than this are practicable in most States, and as there is great scope for the increase of the carrying capacity of farms, the advantages of the adoption of economic improvements may be visualized.

Until a complete survey of the present position, and future prospects in regard to marketing, can be effected, no recommendations are made as to the expansion of the industry. No matter what conclusions may be reached later regarding the prospects of expansion of the industry, there can be but one opinion regarding the value of results which will follow from a well planned policy

for the better utilization of land already served with transport and other facilities.

Australia's competitors are to-day making every effort to lower their costs of production, and Australia must do the same if she desires to hold, and improve, her position as a supplier of dairy produce in the markets of the world.

Production Statistics.

The latest statistics of dairy cow population in Australia, at date of presentation of the report, were as follow:—

New South Wales	858,000
Queensland	637,000
Victoria	615,000
South Australia	101,000
Tasmania	68,000
Western Australia	65,000
	2,344,000

NUMBER OF DAIRY COWS—AVERAGE IN QUINQUENNIAL PERIODS 1900-4 TO 1928

In 1928-29, 815,000,000 gallons of milk were produced, and utilized as follows:—

	£
623,000,000 gallons, converted into 290,000,000 lb. butter, value ...	23,566,800
29,000,000 gallons, converted into 30,000,000 lb. cheese, value ...	1,411,900
20,000,000 gallons, converted into 75,000,000 lb. condensed and concentrated milk, value ...	2,370,900
143,000,000 gallons used for other purposes, principally whole milk	7,361,800
The value of bacon and other pig products was	5,616,800
	£40,327,800

The value of exports in the above year was £9,471,265, of which £7,545,430 was for butter, £1,424,313 for concentrated and condensed milk, and only £329,700 for cheese. Although the report does not deal with marketing problems, graphs and diagrams are produced to illustrate the fluctuations in Australia's contribution from year to year to the world's markets, which are in marked contrast to the steady and continuous increase in the total export of European producing countries, and the greater and more regular contribution made by New Zealand. These facts are quoted to show the dependence of the industry on seasonal conditions, and to throw emphasis upon the importance of improved pasture management and fodder conservation.

Production Records of Cows.

The report quotes statistics of production since 1924-25, in terms of gallons of milk per cow, and converts these figures into butter-fat and money equivalents, assuming an average test of 4 per cent., and an average price of 1s. 8¼d. per lb. of butter-fat (the approximate average price in 1928-29). The following table is of interest as illustrating the varying productivity in the different States:—

State.	Average—Five Years.			1928-29.		
	Milk.	Butter Fat.	Money Value.	Milk.	Butter Fat.	Money Value.
	galls.	lb.	£ s. d.	galls.	lb.	£ s. d.
Victoria	389	155·6	13 2 7	450	180	15 3 9
New South Wales ..	347	138·8	11 14 3	326	130·4	11 0 1
South Australia	340	136	11 9 6	353	141·2	11 18 3
Tasmania .. .	316	126·4	10 13 4	359	143·6	12 2 4
Queensland	269	107·6	9 1 7	297	118·8	10 0 6
Western Australia . ..	248	99·2	8 7 5	277	110·8	9 7 0

The report goes on to show the variations in production in the different districts, as shown by the following figures for 1928-29:—

District.	Average Butter Fat per Cow.
	lb.
Gippsland	242·3
Goulburn Valley	229·4
North-Eastern	206·7
Western	196

The following Grade Herd Testing Records for 1928-29, in New South Wales and Victoria, are also quoted in the report:—

—	Number of Cows Tested.	Average Yield of Milk.	Average Test.	Average Yield of Butter Fat.	Money Value at 1s. 8¼d. per lb.
		galls.	per cent.	lb.	£ s. d.
New South Wales	64,628	301·9	4·33	130·9	11 1 1
Victoria	63,277	508	4·38	222·37	18 15 3

These figures throw emphasis on the importance of feeding, and the report states that there are marked differences in the foodstuffs available to cows.

Victoria's Leading Position.

Throughout the report there is evidence of the leading position enjoyed by Victoria in the production records of her cows. The above figures demonstrate the superiority of Victoria, and, furthermore, indicate the higher productivity of the herds which participate in the Grade Herd Testing movement, as compared with the average for the State. Within the Herd Testing organization itself, there are marked differences as between districts, as shown by the following figures for 1928-29:—

A tribute is paid to the standard attained by those dairy farmers of Gippsland who participate in herd testing, and the view is expressed that it compares favourably with results achieved in any part of the world. This standard is capable of attainment in other districts and other States.

Victoria's leading position is attributed to a combination of conditions, viz.:—

(*a*) Climatic and soil conditions reasonably suitable for the growth of pastures for considerable periods in the average year.

(*b*) Suitable conditions for the production of fodders and the saving of hay.

(*c*) The early success of the Agricultural Department's experiments with applications of phosphatic manures to the pastures, and the striking results obtained by farmers from the outset.

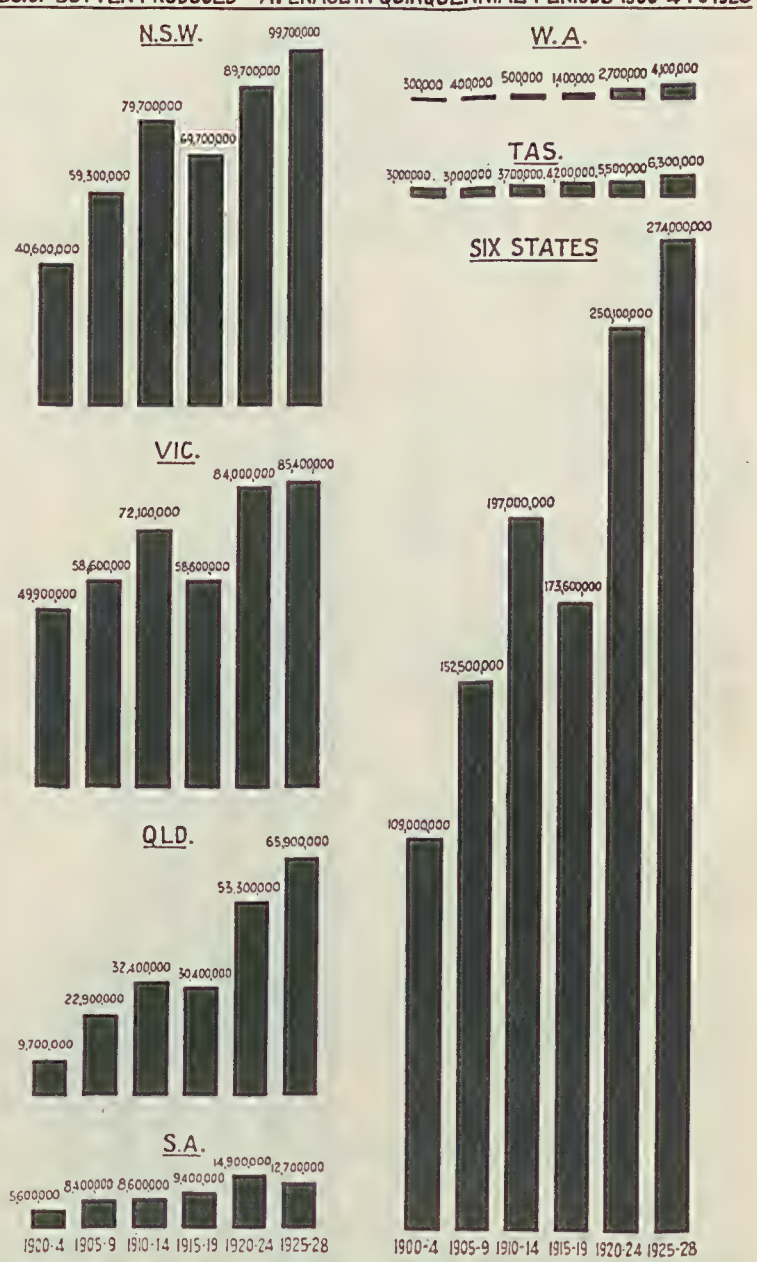
(*d*) The outstanding success of herd testing, and consequently of herd improvement.

(*e*) The maintenance of personal touch with farmers by means of dairy supervisors, who have been able to keep the farmers informed on the above matters.

Pasture Improvement and Fodder Production.

Pasture improvement has engaged the attention of the Department of Agriculture since 1911, when top-dressing experiments with superphosphate were commenced at the State Farm, Rutherglen. Six years later, work was begun at Hamilton, and extended to many other districts. In only two or three districts has improvement of less than 50 per cent. been obtained. In many districts, it has been 100 per cent., and greater.

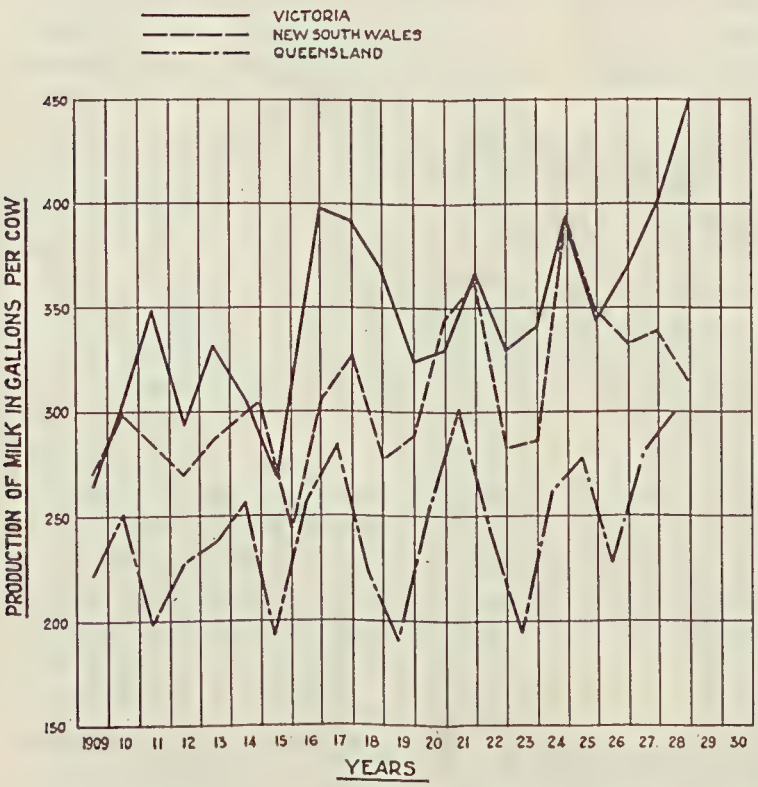
Upon the announcement of the results of the departmental experiments, top-dressing was commenced in all dairying districts. The effects were so striking as to create widespread interest, and to encourage the rapid extension of the practice. It is estimated that, in Victoria, 1,000,000 acres of pasture lands are top-dressed annually, principally in districts south of the Divide.



Progress in this profitable practice has been great indeed, but there is still room for a very great extension. Many dairy farmers have not yet commenced to top-dress their pastures; this can hardly be due to the absence of knowledge of, or faith in, its beneficial effects, but rather to indolence or lack of funds.

Artificial fertilizers other than superphosphate are little used by Victorian farmers today, and any great extension of their use will depend upon the outcome of current and future experiments which are designed to ascertain whether their application leads to an economic increase in the value of the pastures.

GRAPH SHOWING PRODUCTION PER COW — 1909 TO 1928



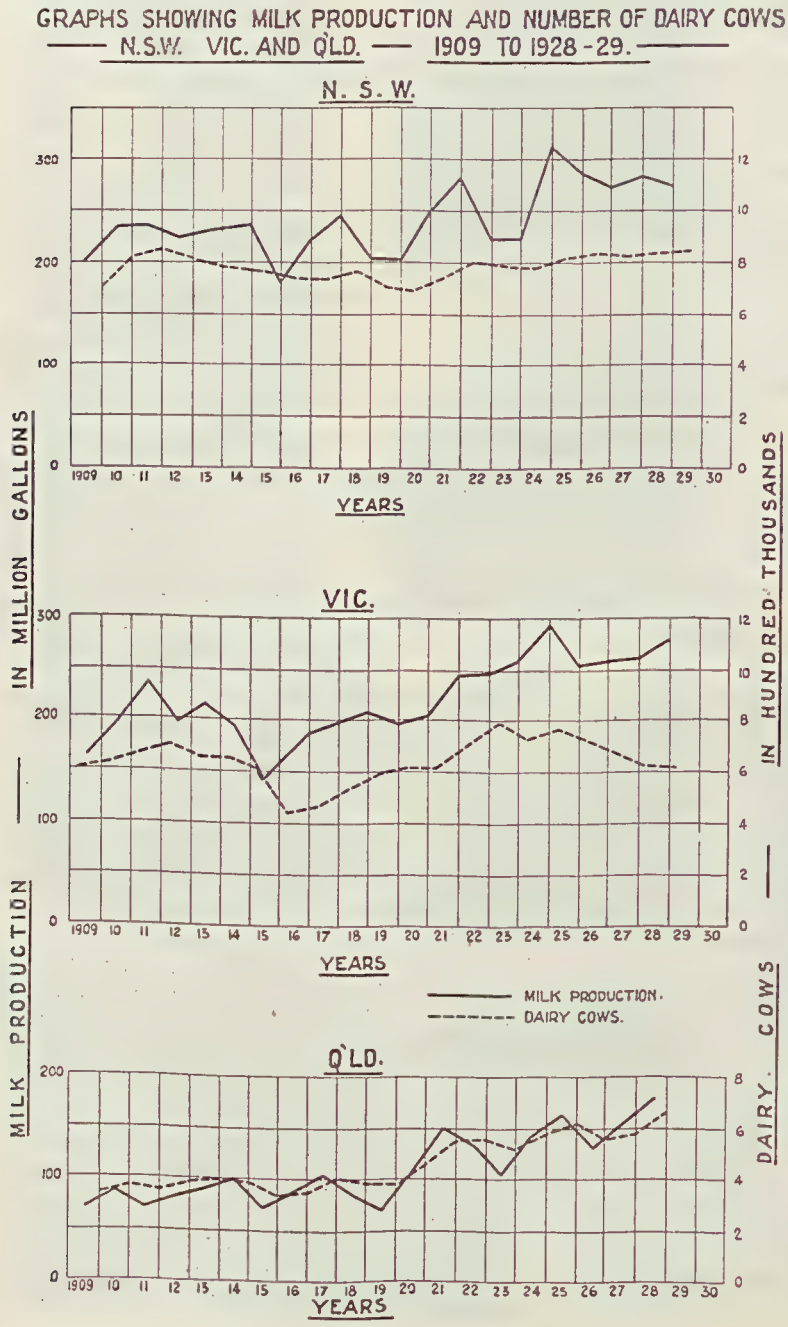
The benefits of pasture improvement cannot be fully utilized unless advantage is taken of the increased carrying capacity which results. In addition to providing more and better feed for the existing herd, pasture improvement should enable farmers to considerably increase the size of their herds, and to rear more young stock as a step in herd improvement. Some farmers are taking these steps, but many are not doing so. The more progressive dairy farmers have reached a standard upon which they are ready to improve when the economic advantages of improved pasture management are proved and demonstrated to them. In the meantime, there is great scope for activity in raising the general level of pasture management.

Most farmers recognize the advantages of rotational grazing, and practise some form of it, but not, except in very few cases, the new intensive Hohenheim system. On most dairy farms the aim is towards the provision of smaller paddocks, but the limitations are capital, labour, water supply, and surface contour. On some farms the standard of subdivision is high and most are subdivided into as great a number of paddocks as is necessary or economical under present methods of pasture utilization. However, when farmers commence to top-dress a greater area on their properties, they will require more paddocks if they are to derive the full benefits of the increased growth which will result.

The Committee quotes statistics regarding the production of hay and green fodders in Victoria, and sets out its observations on the practices of dairy farmers interviewed during the course of the investigations. The view is expressed that the quantity of supplementary fodders grown on most farms is insufficient to maintain an adequate feeding ration throughout the year, and seldom is a surplus available which may be kept as a reserve for bad years. Few farms are equipped with silos, and very little silage is made. A large proportion of the silos which are in existence are not used, the general opinion being that the cost of filling them is too great, and that requirements can be met more advantageously with oaten and meadow hay, which, however, are seldom provided as reserves.

The provision of meadow hay is increasing in most parts of the State, and wherever used it is highly regarded as a milk producing food. The quantity cut is generally small, but some farmers are saving considerable quantities, in preference to growing oaten hay. Particularly heavy yields of great feeding value are obtained from pastures consisting of rye grass, and red and white clovers. There is room for a very great expansion in the practice of saving meadow hay, and in the quantity saved on individual farms, but there are certain limiting factors. The yield of meadow hay is

more dependent upon the seasons than oats, and there are greater difficulties in curing and handling it than are experienced with oaten hay. Furthermore, the existing scale of subdivision does not, in many cases, permit of the shutting up of grazing paddocks for the necessary period.



Herd Management and Improvement.

The major factors in herd management and improvement are summarized as follows:—

(*a*) The provision of sufficient supplies of nutritionally balanced foodstuffs to enable the cows to produce to full capacity.

(*b*) The ascertainment of the productive efficiency of individual cows, and the herd as a whole.

(*c*) The culling of those cows which, under favorable feeding and other conditions, have been found to be unprofitable.

(*d*) The adoption of a n efficient policy of breeding from the higher producing cows, by the use of a production-bred bull.

(*e*) The care of the health of the dairy herd by the adoption of those practices recommended by competent authorities for protection against, and treatment of, disease.

The combination of the above factors is most satisfactory in Victoria — therein lies the reason for this State's recent marked advances in production per cow. Stud herd testing has made steady progress since its inception in 1912, and, under its influence, stud breeding has made great ad-

vances. The number of stud breeders has increased rapidly until, in 1930, there were more than 1,000 members of the different breed societies.

The activities of the Department in the conduct of the work of testing, the support and enthusiasm of the breeders, the results achieved, and the publicity given to the matter by the Department, the breed societies, and the press, in addition to resulting in a large increase in the number of breeders, greatly influenced farmers in appreciating the value of herd testing, and the merits of the production-bred bulls for herd improvement purposes. It is largely due to these influences that the percentage of pure bulls used in grade herds is so high, and that the standard of production under grade herd testing has shown satisfactory results.

Grade herd testing in Victoria commenced in Gippsland in 1921, and, since that time, has shown a progressive increase. In the financial year 1921-22, there were two units under test comprising 1,600 cows. In 1929-30, there were 130 units comprising 90,000 cows. The progress also applies to the improvements effected in the yields of herds, and has been due principally to the following influences:—

1. The propaganda work of the Department of Agriculture.
2. The influence of leaders in the movement itself.
3. The Government subsidy.

No branch of the activities of the Department of Agriculture in relation to the dairy farmer is more enthusiastically prosecuted than this, which is the predominant influence in maintaining and extending interest in the value of herd improvement.

Leading farmers in the State were quick to see the advantage of knowledge concerning the production capacity of their herds, and they have enthusiastically aided the Department in educating their fellow farmers in those advantages. Those farmers who, profiting by the lessons taught by the records of their yields, have culled their herds, utilized good bulls for breeding up, and adopted improved feeding methods, have also exerted a great influence in popularizing herd testing, the continued expansion of which may be expected. The subsidy towards herd testing has been a very powerful instrument in the hands of the enthusiasts who have done so much for grade herd testing, and its continued operation is regarded as essential as an aid to the extension of the movement.

The Committee commends the steps taken to introduce pure-bred bulls into grade herds, viz.:—

(1) The regulation providing for the use of increasing numbers of pure-bred bulls in the herds in the grade herd test. Payment of subsidy is conditional on compliance with this provision.

(2) The sale of pure-bred bulls from Government studs, and the payment of a subsidy to dairy farmers to enable them to purchase pure-bred bull calves. The price paid to breeders is computed at the rate of 1s. per lb. of the butter-fat production of the dam, and the farmer pays half this price, the balance being met by the Government. The purchasing farmer must arrange for the slaughter of any scrub bull in his possession, as soon as the bull calf has reached the age for service. He is also required to retain the subsidized bull for at least three years, and not to dispose of him without the consent of the Department; and must keep records of the production of his herd from the date of acquiring the bull calf.

The use of pure-bred bulls is increasing throughout the State, and the percentage used will continue to increase through the operation of the subsidy and the condition included in the grade herd test regulations. These provisions ensure a steady market for stud breeders, of whom there is a large number in the State, and who are co-operating with the Department of Agriculture in its policy.

Dairy Supervision.

The Dairy Supervision Act of Victoria applies to certain defined milk areas, and to such other localities as are proclaimed. It has been the practice to proclaim a district only when the municipal council is sympathetic. At the time of writing the report, 131 out of 196 municipalities in the State were under supervision. Several important dairying districts were not subject to the Act.

The work of dairy supervision is under the control of the Chief Veterinary Officer, who

directs the work of the Chief Diary Supervisor, ten senior supervisors, and 75 supervisors. The supervisors are appointed after passing a qualifying examination in dairy farming and allied branches of agriculture, breeding, feeding, management, and common ailments of dairy stock, construction of dairy farm buildings, and sanitation, &c. Their work relates to the inspection of dairy premises and utensils, the examination of dairy cattle with a view to the detection of diseases, and general instructional wark.

The work of supervisors thus consists partly of administration and inspection work, and partly of education. The organization has played an important part in the improvement of dairying conditions in Victoria, and the maintenance of regular contact between the Department and the farmer has been of benefit to the industry.

The system of supervision operative in Victoria, however, suffers from certain disadvantages which are common to most Australian systems of supervision and instruction to dairy farmers. Extension services for the conveyance of knowledge to farmers have often been subordinated to inspection, and in most States instructional work is a function of officers who are primarily inspectors. Limitations of finance have influenced this combination of functions, which, however, possesses certain unsatisfactory features. Frequently an officer who acts in an inspectorial capacity finds difficulty in maintaining a satisfactory approach to the farmer as an adviser or instructor. On the other hand, the officer who desires to preserve cordial relations with the farmer is tempted to be somewhat lenient in his inspectorial requirements, and to devote his time rather to the more pleasant duty of advice.

Insanitary Dairy Premises.

This combination of functions, and the fact that the Dairy Supervision Act does not apply to all parts of Victoria, are regarded as contributing to the lower standard of cleanliness on Victorian dairy farms, compared with those in New South Wales and Queensland. The standard of cleanliness of dairy buildings and their surroundings is a very important factor in dairy farm management, and has a governing influence upon the quality of the ultimate product. It is not possible to manufacture choicest butter and other milk products from badly-contaminated milk or cream, and low-grade supplies from a few farmers are sufficient to create a problem for the factory manager. Factories in some States have experienced considerable difficulty in landing supplies of butter on the London market in choice condition, and there appears to be sufficient evidence to indicate that a source of much of the trouble is on the farm.

The general standards of dairy farm cleanliness are bad in some districts in Victoria which are not under supervision, and there is a general desire on the part of factory managers that the whole State should be under Government control. There is also marked variation in the standard in different districts under supervision, partly because some municipalities have been under the control of the Government for only a short period, and partly owing to lack of uniformity in the requirements by supervisors.

In order to bring dairy premises generally up to a higher standard of cleanliness, it is desirable that the whole State should be brought under the operations of the Dairy Supervision Act at the earliest possible date. This will necessitate the appointment of additional supervisors, as it would be impossible to carry out satisfactorily the provisions of the Act throughout the State with the existing staff. It is also desirable that a more uniform cleanliness standard for sheds, floors, and yards be aimed at in all districts.

Diseases.

Disease levies a heavy toll upon the dairying industry, the annual losses in Australia due to its ravages amounting probably to millions of pounds per annum. It is important that all possible measures be taken to minimize these losses, and the committee made inquiries regarding the incidence of the most serious diseases in Australia, the preventive and curative measures usualy adopted, and the progress of research in Australia and other countries regarding them.

The diseases dealt with in this regard are mastitis, contagious abortion, sterility, tuberculosis, and pleuro-pneumonia, and the committee considers that the opposing recommendations of various Australasian and other authorities make the position with regard to control and treatment of some dairy cattle diseases very difficult and gravely unsatisfactory. This is particularly notable in

connexion with the treatment of contagious mastitis.

It is considered that the Division of Animal Health, Council for Scientific and Industrial Research, in consultation with the State Veterinary Departments or branches, should be requested to indicate for the use of extension services the sound, justifiable recommendations which should be made to farmers for the prevention and/or control of the common diseases in the dairying industry.

It is felt essential that research activities in connexion with dairy cattle diseases should be a matter for joint Commonwealth and State participation, and that the States engaged in dairying for export might accomplish this desideratum by joint action in establishing a special laboratory for the investigation of dairying diseases at an established research institute.

Other matters which have been dealt with in the report relate to electric power on the farm, shelter and shade, labour, tenant and share-farming, the reclamation of the Gippsland hill country, and the problem of the partially-cleared farm.

Future Improvements.

The extent of the work necessary to improve conditions in the industry varies in the different States according to the standards already achieved. In Victoria, where standard efficient practices already are widely adopted, and where a highly efficient herd improvement organization already exists, the immediate task is to extend the application of those practices which have been applied by many farmers with conspicuous success.

The committee has commended to other States the Victorian systems of grade herd testing and bull-calf subsidies. In dealing with pasture treatment, it is pointed out that in most parts of the State the value of top-dressing with superphosphate is accepted, but intensive campaigns by the extension services of the Departments of Agriculture are desirable to encourage the extension of the practice to those farmers who have not yet adopted it.

The usual practice at present is to top-dress portion of the farms each year with 1 cwt. of superphosphate, and this may mean that individual paddocks are top-dressed only once every two or three years, or even less frequently. The next stage is to determine the most beneficial and economic quantity of fertilizer to apply per acre, the frequency of the applications, and the means of utilizing the increased growth.

Any substantial increase of pasture growth will, in most cases, necessitate more subdivision, improved water supply, increased stocking, and the efficient utilization of the pasture both by more intensive grazing and by the removal of surplus growth. The utilization of the surplus growth for hay or silage is an important aspect of grass-land improvement and management, and may, in itself, be found to justify the use of increased quantities of superphosphate.

Fodder Conservation.

In view of the stage which pasture improvement and management have reached in Australia, it is essential that greater quantities of fodders should be grown to meet annual periods of pasture shortage, and to minimize the influence of adverse seasons. Consideration of existing difficulties in the way of provision and conservation of fodders is, therefore, of prime importance.

The provision of fodder supplies for seasonal requirements presents no great difficulties. It has been demonstrated by Departments of Agriculture, and by farmers themselves, that, in most dairying districts, fodders can be grown which are suitable as supplements to the pastures, yet most farmers in Australia do not provide an adequacy of these fodders even in normal years. To remedy this defect invesigations are necessary into the economics of supplementary fodder supplies, even in good seasons.

At first glance, the conservation of fodder for future years appears to be a ready means of minimizing the great losses caused periodically by adverse seasons, and from time to time many proposals have been made with the object of bringing about the more widespread adoption of this practice. The infrequent adoption by farmers of such a seemingly desirable measure indicates, however, that considerable economic difficulties are involved. The farmer is in doubt on many points, and, at the present time, insufficient information is available to remove his doubts. Until this information is obtained and given to him, one of the most serious defects of dairy production in Australia, viz., the violent fluctuations from year to year, will not be minimized to any great extent.

Despite the difficulties involved, the importance to Australia of fodder conservation is so great that investigations into all aspects of the problem are an urgent requirement in all States. The urgency is greatest in Queensland and New South Wales, where dairy-farmers incur the greatest losses through the incidence of bad seasons. The investigations should be conducted on a wide scale in all districts with the aid of dairy-farmers, and should comprise experiments over periods of years into all aspects of the problem. In all experiments detailed costs should be kept so that farmers may be informed accurately regarding the financial benefits in relation to the cost.

Pasture Research.

In view of the fundamental importance of pastures, it is emphasized that any method which may be devised whereby the per acre production from pasturage can be economically increased is worthy of consideration.

The rational utilization of the grassland resources is dependent upon an accurate knowledge of the relationship of the various types of grassland to the climatic, soil, and biotic factors that control them. An essential to the full development of grassland resources is to classify the grasslands of each climatic and soil region according to species of plants contributing to the pasture association with a view of establishing unit areas based on similarity of composition. It is desirable also to determine the extent to which each major grassland association may be modified by fertilizers, introduction of new species and pasture mixtures and various forms of pasture management. With knowledge of such a nature available the work of developing grasslands would rest on a sound basis. Such a classification or survey of the unit types of grassland has not yet been undertaken in detail for any State nor for Australia as a whole, nor have the best methods of dealing with each type of association been worked out. Such a survey would facilitate the most effective development of grassland resources.

Over a considerable area of the dairying districts of Australia there are indications that improvement can be effected by the following practices:—

(1) Improvements in pasture by the use of soluble phosphates and, in regions of very heavy rainfall, of nitrogenous manures.

(2) Use of seeded pastures and pasture mixtures.

(3) Pasture management.

(4) Conservation of the surplus growth for use during periods of nutritional stress which normally occur in the northern dairying areas (Queensland and New South Wales) in winter and early spring and in the southern grassland region in late summer, autumn, and winter.

(5) Improvements of types by selection within the species.

The technique of pasture experiments is a very complicated problem in itself if really reliable results are to be achieved. The difficulties of pasture experimentation are numerous, and begin to show themselves even in demonstration plots. When quantitative results are desired, and they are manifestly essential before the economic value of any procedure can be ascertained, the difficulties are very great indeed. To mention but a few points. There is, first, the difficulty of obtaining uniform areas for experimentation. Then there arises the method of sampling and the degree of error to be expected. Further, there are the two methods of removing the produce —by some mowing device or by the animal. Mowing devices unless carefully controlled tend to influence the composition of the herbage and to favour plants with prostrate habit; further, nothing is returned to the soil in the way of excreta. The animal on the other hand is itself a very variable machine, and introduces complications of other types.

There has been a tendency throughout the Commonwealth to subordinate pasture to crop interests. Investigational and extension work with reference to cereal and other crops has been undertaken for a prolonged period, but it is only within recent years that more than an isolated worker has been engaged in pasture problems. The importance of continuity in work of this kind should be emphasized. The problems of pasture management are complicated — they demand the attention of specialists. On the research side the problems are involved, and cannot be solved other than by team work carried on over a number of years by the same individuals.

Any attempt to carry out such work by the employment of men drafted in from other work now and again is likely to prove wasteful

in effort, and may in the end mean that observations which would have been valuable to the specialist will entirely escape notice.

Personnel for Research Investigation and Extension.

From the consideration of existing organizations for research and extension, certain general conclusions emerge, viz.:—

(1) For the conduct of research and investigation there is urgent need for more graduates in agriculture from the Australian Universities.

(2) Educational activities regarding pastures and dairy-farm management should, as far as possible, be divorced from inspectorial functions.

(3) The extension service in dairying districts should consist of officers specially trained in animal husbandry and pasture management, who would be capable of interpreting for the farmer the results of pasture and fodder experiments, and of advising him on all matters relating to the care, management, and health of his herd.

There is a Chair of Agriculture at the University of each State capital except Hobart, and graduates are eligible for appointment to Departments. The Victorian scheme is covered by the *Agricultural Education Act* 1920 and subsequent amending Acts, which provided for the reorganization of the School of Agriculture at the Melbourne University, and the appropriation of funds for payment to the University over a period of years. One of the conditions attaching to the payment of the subsidy is that the University shall provide a limited number of free places admitting to full courses in agricultural science.

The Act provides that graduates may be engaged by special contract to be officers of the Departments of Agriculture and Education and the State Rivers and Water Supply Commission at salaries of not less than £300 per annum. Since the commencement of the operation of the Act about 40 graduates have been appointed to the Department of Agriculture.

Somewhat similar schemes are in operation in New South Wales and South Australia, and these, together with the Victorian scheme, are commended by the committee. Their continuance is essential, as a guarantee that the research needs of the States concerned will not be neglected. The adoption of similar schemes by the other States is strongly recommended. In the case of Tasmania, the position might be met by the provision of a number of free places at mainland universities.

The problems calling for research in Australia in all branches of agriculture are so numerous that work can be found for University graduates in increasing numbers for many years to come. Up to the present very few of the graduates employed in Departments of Agriculture have specialized in pasture problems, and the capacity of Departments to increase the number rapidly depends on the facilities for training them. A small organization must necessarily take a considerable time to add appreciably to its numbers if every additional research officer comes straight from the University. For the more urgent problems some States may find it necessary to go beyond their own boundaries in the search for suitable men.

The research and investigational programmes in Victoria are matters for the agricultural division with possible co-operation from the University under the provisions of the Agricultural Educational Act. The application to practical farming of the results of investigations into intensive rotational grazing and pasture utilization, and the raising of the general level of herd management will call for extension work of a high calibre, and will necessitate somewhat higher qualifications than are required at present for dairy supervisors.

The Need for Economic Research Services.

The absence of precise economic data on many aspects of dairy-farming in Australia is a serious handicap to progress. "How much better off is the Victorian dairy-farmer as the result of the greater productivity of his cows?" "What proportion of this greater production has gone in increased costs, how much is reflected in higher labour incomes, and in inflated land values respectively?" "What will it cost per acre to renovate paspalum?" "How much fodder should be reserved against droughts in Queensland for a herd of such and such a size; what would it cost, and would it pay?" These and many other questions must be left unanswered at

present. Were the data available, there is little doubt that the increased production would be shown to be profitable. The comparatively small cost of providing the proof would be repaid over and over again by great extension of proved beneficial practices.

There is to-day no reliable basis for the consideration of the productive value of dairying land. Prices are fixed according to the estimates of buyers and sellers, and there is ample scope for error in the personal judgment of either. The payment of a price for land beyond its worth is serious enough for the farmer who is able to pay cash—he either receives a low rate of interest on his investment, or works for little or no labour income. For the man who buys on terms the position is much worse; he has to pay interest on his debt, and his remaining labour income may be quite inadequate to provide himself and his family with what are usually regarded as the necessaries of life.

The tendency to inflated land values will be counteracted to some extent when accurate data can be made available to farmers and financial institutions as the result of continuous economic farm surveys and market investigations and forecasts; and when farmers realize that their capital investment should give an interest return, and that, in addition, their work and management deserve a higher reward than the basic wage. Dairy-farming is a complicated business, and the farmer who successfully pursues intelligent and efficient practices deserves a reasonable reward. The recognition that higher labour incomes should be received will assist in keeping efficient men in the industry, and in attracting to it men of sufficient calibre to maintain the high production per acre which is possible and desirable.

Farm cost studies are regarded as a national responsibility in other countries, because they disclose the general financial position of farmers. They furnish details of the cost of production, and indicate those combinations of practices which have been found to produce the best net results, and common faults which should be corrected.

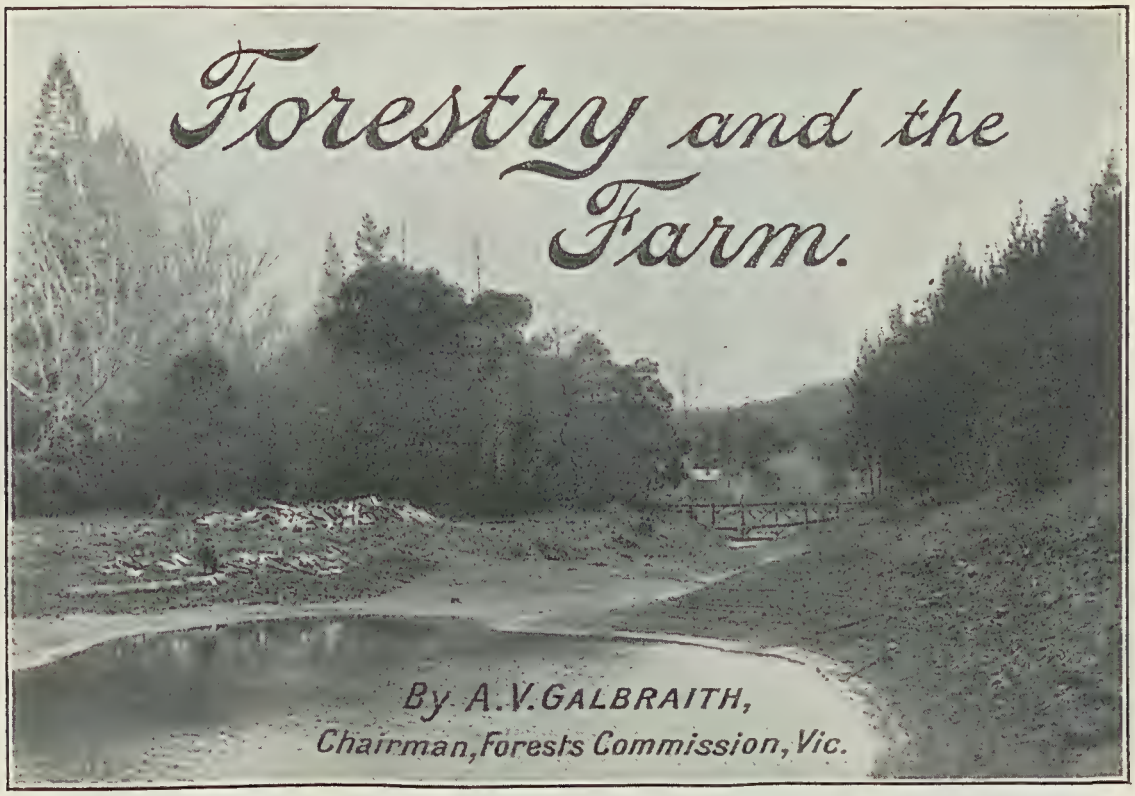
Whilst the scientific and technical aspects of agriculture have received attention in Australia, the economic aspects have been almost entirely neglected. The recognition that agriculture is a business as well as a science and an art should be an integral part of future policy. Further advances in the organization of the industry, and the application of improved methods, will be greatly assisted if the scientific research and extension services are partnered by economic staffs.

Finance.

If the policies outlined by the committee are to be put into effect on a scale sufficient to achieve the maximum results, the provision of funds to supplement those at the disposal of the States will be necessary. Investment of money on such work would be sound, and should produce results far greater than those which would follow upon an equal scale of expenditure on extensive development. The States however, with their large commitments in many directions, will be unable, even in normal times, to adopt these policies to the extent which is desirable unless they can be assisted financially.

The committee feels that no better use could be found for moneys provided under the £34,000,000 agreement than for the pursuit of research and the provision of extension services commensurate with the importance of the tasks involved. It, therefore, recommends that the British and Commonwealth Governments agree to co-operate with the States in these directions, and that the States be encouraged to formulate proposals, conforming to the policies outlined for consideration as schemes under that agreement, the scope of which might be enlarged for that purpose, as suggested by the British Economic Mission.

The benefits accruing to Australia and to the Empire must be measured in the greater prosperity and the enhanced national income which would result from intensified production. Moreover, although the committee's proposals do not involve organized schemes for the settlement of migrants, the demand for labour and the absorption capacity of Australia would be increased without incurring the heavy capital costs involved in new schemes of extensive development.



This article has been contributed at the invitation of the Hon. R. T. Pollard, M.L.A., Assistant Minister of Agriculture, in the hope that the farming community will be awakened to the value of introducing tree growth, not only for aesthetic purposes, but also as a source of direct profit.

THE mistaken idea still prevails in many quarters that forestry is a hindrance rather than an aid to the development of agriculture. A moment's cogitation will reveal to us that nothing was ever so far removed from the truth. After centuries of experience, the older countries of the world have described forestry as the elder sister of agriculture. Both are, as primary industries, not only interdependent, but they demand judicious and parallel expansion by the powers that be.

Perhaps it is on account of the absence of the requisite background of long experience, that Australian farmers are wont to assess wrongly the value of forestry in its relation to agriculture. More often than not the tree has been deemed an enemy, an excrescence to be removed on sight.

As in other newly-settled countries, we blundered early into an unrestricted land settlement policy without due consideration of basic natural necessities and the consequences of their neglect, such as the need for a proper balance between forests and arable lands. On the economic side, the necessary compensating advantages of the retention of sufficient lands under tree cover adjacent to settlement were not thought of, and above all the soil factor in the making or marring of settlement was insufficiently examined. The catch-cry of an early legislator was, "Settle big men where the big trees grow." This became the governmental policy of the day, with ultimate drastic results, in many cases, not only to individuals, but to the nation, through destruction of valuable forests on vulnerable highland areas, where soils were found unprofitable for settlement. These errors surely suggest a careful soil and general economic survey before any new settlement commences, with due regard to the retention of a fair balance between local forests and settlement. For, not only is timber (a heavy commodity for transport)

required for future farm development, but protection of the water supply is a prime factor in the success of the farming community. The Forests Commission is concerned with the repair of losses in tree growth incurred throughout the State by past misadventure, not only on Crown areas, but on private property as well. Consequently, the Commission is endeavouring to create amongst farmers a closer interest in tree production: firstly for the protection of their own property, secondly in the improvement of farm surroundings, and thirdly as a commercial crop to be planted on areas unused for other purposes.

A Highland Area which should not have been alienated, now deforested, abandoned by settlers, and causing siltation of streams.

Tree Protection to Invested Capital.

In these days of close marginal profits, and even losses, we are scanning every possible avenue for savings. In doing so, we must bear in mind the fact that financial depressions are cyclical in effect, occurring at periodic intervals. What, then, is to be gained by systematic planting of trees at such a time as this? Here are some potent advantages:—

(1) If the work is carried out methodically, the initial cost is infinitesimal, considering the excellent insurance effects for the future.

(2) The farmer who introduces tree growth on vulnerable parts of his land (*a*) protects his water supply and (*b*) prevents annual losses of valuable soil by erosive action of water and wind, and consequent siltation of streams and dams.

(3) Trees planted wisely to afford shelter belts, protect and improve his stock, making them healthy and fat, in cosy paddocks, at the same time adding considerably to his

Trees are necessary to conserve the water supply and prevent landslides and siltation.

capital by increased breeding percentages. There is nothing worse than the spectacle on a hot day of stock with heads down looking in vain for shelter, or beasts huddled up in cold weather, using up any conserved energy they may possess.

(4) Farm buildings and machinery are saved from undue deterioration through inclement weather conditions, the home surroundings are beautified, and the family are comfortably protected from the rigours of climate.

(5) Tree belts provide homes for insectivorous birds, forming the farmer's first line of defence against insect attack upon his crops.

(6) The farmer's efforts are ever directed towards the maintenance of the fertility of the land. Here, then, is another most important aspect to consider. The tree not only improves the soil by root action, but it adds humus to and produces bacterial activity in the soil, for example, the introduction of any of the Acacias—leguminous plants whose bacterial action gives nitrogenous matter to the soil. The wattle has a short rotationary life of ten to twelve years, and this, combined with its protective and commercial value, should demand serious attention.

The chief disadvantage—the use of a comparatively few acres of land for tree growth—is considerably outweighed when consideration is given to the foregoing advantages, to which must be added the material value of timber taken out by the farmer for his own use in the course of thinning or pollarding his shelter belts. Pollarding, by the way, should be

A well-established Windbreak of Sugar Gums in North-western Victoria.

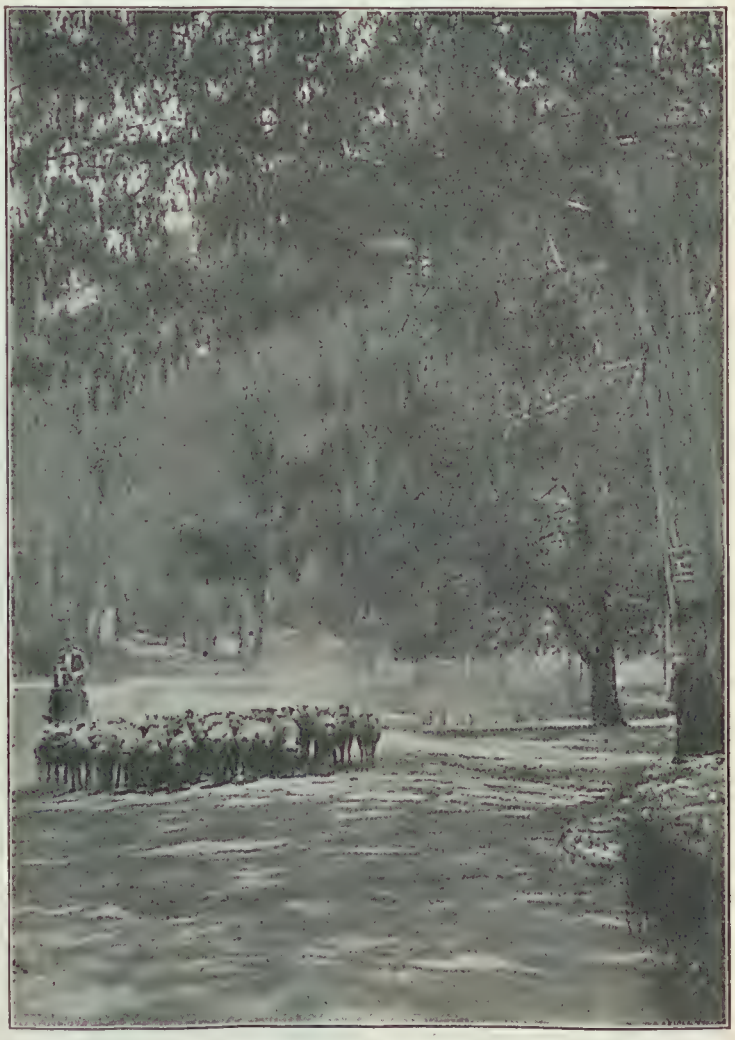
Trees such as these are not only beautiful to the eye, they also protect the home and the farm stock from the hot winds of summer and the storms of winter.

Magnificent Windbelt of Cupressus Macrocarpa.

carried out only in late winter or early spring.

While discussing shelter belts, it may be pointed out that the wise selection of species is the main consideration, having regard to severity of winds, the soil, and rainfall. The Forests Commission has had made a general survey of the various climatic and soil conditions prevailing in all parts of the State, which has been conveniently zoned for the recommendation of species, methods of planting, designs of shelter breaks, espacement, &c., according to severity and direction of winds. This information will be gladly given, on application, to any landowner, who should submit particulars as to the exact location of his property, with description of soil and prevailing climatic conditions.

The tree selected for shelter against rigorous winds must be deep-rooted, with foliage persisting almost to ground level. Generally speaking, no tree has been found to excel the Eucalypt, especially the Sugar Gum (*Euc. cladocalyx*), and the Gippsland Mahogany Gum (*Euc. botryoides*). The Sugar Gum is adaptable under most soil conditions in Victoria; but, unfortunately, when it passes the juvenile stages, it loses its lower leaf furnishing. When planted it should be accompanied either by an understory of Acacia or inner belts of Pines or Cypress.



Roadside trees provide welcome shelter for man and beast.

Washout in the Western District caused by removal of tree cover, resulting in the loss of many acres of fertile land.

Benefits of Commercial Planting.

There are very few farms that do not possess areas of low fertility or that are not used for monetary gain. Such unproductive lands should be placed under timber, not only for ultimate use on the farm for buildings, posts, and fuel, but also for marketing. With a fair rainfall trees will thrive on poor, well-drained land, but they will do much better, of course, on higher grade areas.

The cost of establishment is comparatively small. *Euc. cladocalyx* seed may be

A country home improved by tree growth.

purchased at 16s. per lb. and *Pinus insignis* at 12s. 6d. per lb., and planting stock of these species is worth about 15s. per 100 plants. The only other establishment cost is that of labour, and as this usually does not represent actual expenditure it need not be assessed here. The same applies to tending and thinning operations, from which produce suitable for farm use will be obtained, and which, depending on the size of the wood lot, may involve only a few days' labour annually.

A barren-looking home to which trees would give protection, comfort, and beauty.

Planting, as well as utilization of the ultimate crop, gives seasonal work in winter, just at a time when hands and teams are not urgently required for other work on the farm. In other words, introduction of timber crops tends towards a well-balanced farm unit.

Before any scheme of commercial planting is undertaken, it would be wise to consult the Forests Commission, especially in regard to suitable species, location, &c.

Group Planting Schemes.

Whilst individual effort towards introduction of tree growth is very necessary, especially for one's own requirements, a much wider field can be covered by well-organized group or community effort, making for greater efficiency over a more extended area with lower cost and greater satisfaction, both from the utilitarian and aesthetic points of view. For example, soil losses through water or aeolian erosion are increasing each year, and ere long will become an acute problem to private land-holders. The ill effects of erosion are noticeable at every point of the compass, and if the total preventable annual losses of valuable soil were assessed, the result would force land-owners to action. America, not many years ago, followed in the wake of France and Japan, took stock of her soil losses, and is now applying palliative measures by introducing tree growth on vital land features whence the trouble is caused. An individual farmer might take action to cover those parts of his land, whilst his neighbour occupying areas on the same land level does nothing, the result being that the run off from the latter's property continues to gulch the lower lands of adjacent owners. A community or group effort under these

circumstances would be the only effective remedy. In the case of weather belts of timber, in many instances co-operative effort between adjacent land-holders would bring about more efficient results than independent and individual action.

Such a scheme, it is considered, commands some organized action; and any advice which might be sought from the Forests Commission to this end would be readily given, especially in the creation of a well-planned, systematic forestry scheme between groups of private owners, who might, perhaps, be organized through the municipal council, whose engineer is competent to reveal the vital land points whence erosive action commences.

In addition to its policy of making available trees for land-holders at specially reduced rates, the Commission is organizing, during the present planting season, practical demonstrations of weather-break tree planting or field days. The area decided upon this year will be confined to the plain country of the Western District, and a commencement will be made towards the end of June. The assistance of the shire councils interested will be sought in this new venture.

Finally, the municipal councils throughout the State can render much aid to the Forests Commission in its earnest endeavour to interest all public bodies and land-owners in restoring the balance of nature, which has been disturbed by the removal of tree growth from vulnerable land features, and in the general judicious introduction of trees for the benefit of the State and individual land-owners. To those local governing bodies, the Forests Commission appeals for whole-hearted assistance.

Shade and Beauty.

Pyramid Farm Competition

Report of the Judges, Messrs. L. C. Bartels, B.Agr.Sc., Senior Irrigation Officer, Department of Agriculture, and M. Harvey, Supervisor, State Rivers and Water Supply Commission.

THE Pyramid Agricultural Society conducted its first farm competition during the spring and autumn of 1930-31, and the schedule of points adopted indicates that the primary purpose was to promote the efficient use of irrigation water and the establishment of permanent crops. Despite the difficulties of comparing farms under different conditions, the competition is a means of determining what progressive farmers are doing and of making known their methods and ideas.

Irrigation farming in the Tragowel Plains area has not been on any intensive scale and development in that direction is limited by the fact that most farms have a water-right of only one in five; in other words, they are entitled to receive only 1 acre foot of water for each 5 acres of irrigable land. Dry farming is carried on, and in dry seasons water is used on wheat, oats, and barley. Summer crops, such as millet and sorghums, are grown, and ordinarily the water is used to irrigate natural grasses.

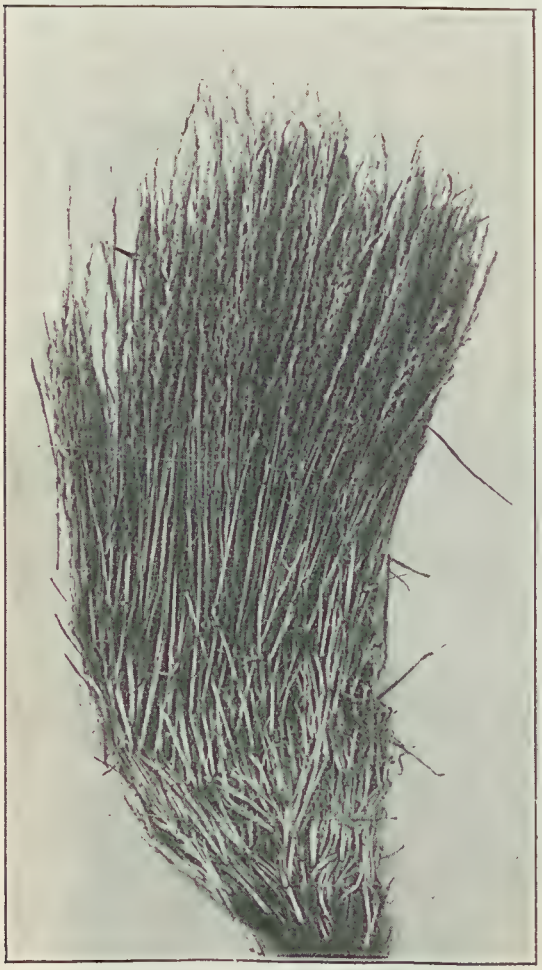
The land generally is in broad plains. The soils are variable, but by far the greater area is red plain land with clayey soils, which do not take water readily; "crabholey" land is intermixed with the characteristic small mounds of loose fertile soil. Surface grades are flat—there is a fall of only 1 foot per mile—so that after heavy rains and in wet winters water spreads and drains off slowly in shallow creeks. There is, however, a proportion, bigger than is generally recognized, of loamy ground which is well drained. There is excellent land in small strips adjoining the creeks, and there are belts of land originally timbered which are of superior quality.

To complete the picture of conditions in the Pyramid district, one must know the methods of irrigation commonly practised. Until recently very little permanent crop, such as lucerne or mixed pasture, was put in, and there is little doubt that the apparent failure to develop lucerne was related to the irrigation methods which, though satisfactory as emergency practice in irrigating cereals or natural grass land, were not good enough for lucerne. Despite

A Sample of Ambercane grown in the Pyramid District.

the peculiar difficulties associated with irrigation farming in the Pyramid district, it may be said that splendid opportunities await enterprising farmers who are prepared to make more efficient use of the water available.

During the last few years considerable progress in this direction has been noted, and any doubt as to the likelihood of lucerne being



A Specimen of Wimmera Rye Grass.

successful have been dispelled by the experience of those farmers who have established it. The many areas of good land in the district will demonstrate their fertility when lucerne is successfully started and properly cared for. The high productive capacity of this crop under irrigation is well known, but what is not so well known is that it eclipses most fodder plants in its ability to survive dry conditions, although, of course, it must have adequate moisture to make good growth. The land must be drained so that at no time is water allowed to lie for any time, and where such drainage is not possible the sowing of lucerne is not recommended.

In view of the promise shown in the several areas of lucerne now successfully established, one is led to inquire why this crop was not exploited years ago; among other reasons there was the difficulty in getting lucerne started. The heavier soils apparently contain a high percentage of colloidal clay. After being wet these soils crust on the surface, and tiny lucerne seedlings have the greatest difficulty in forcing their way through.

Lucerne should be sown on fallowed ground with the surface mulch reduced to a knobby condition. The seed should be sown shallowly and at a time when there is a prospect of rain and the ground is not likely to dry too rapidly. Sowing with a cover crop is not a help to the lucerne—if the lucerne does well, it is in spite of the serious competition and shading effects of the cover crop. Bad watering practice will kill lucerne, and the methods successful with cereals might lead to its destruction. Continued grazing hastens the decline of the lucerne. Grazing should be done rapidly at intervals, and the stand should be allowed to advance to maturity at least once a year. This entails secure fencing and subdivision.

Manuring is essential, and the rejuvenation of old stands by liberal manuring has been a striking feature of departmental tests. Farmers who have seen the lucerne manurial plots at Swan Hill, Tongala, Cohuna, and elsewhere know how consistently the value of liberal dressings of superphosphate has been demonstrated. The unmanured plots have reverted to a most unprofitable condition, whereas the manured plots maintain high yields, and give every promise of extended life.

Wimmera rye grass has been sown on several farms in the Pyramid district during the last two or three years, and the experience of farmers even in that short period has been such as to indicate that this grass will play a big part in the improvement of pastoral conditions on the Tragowel Plains. Wimmera rye grass is an annual, and depends on reseeding for its continuance. It is found growing thickly in parts of the Wimmera, and is spreading naturally beyond Birchip. This

shows its adaptability to dry conditions, but it has a far greater productive capacity under higher rainfall. Italian rye grass, which is another annual, and Perennial rye grass are superior to Wimmera rye grass, but their moisture requirements are higher, and they are satisfactory only where the rainfall is sufficient or regular irrigation is practised.

Wimmera rye grass is peculiarly suited to conditions where its early autumn growth can be started and sustained by irrigation, and if needs be, its spring growth augmented by the application of irrigation water. This grass makes rapid autumn growth, and a good start ensures abundant winter feed.

Rigid rye grass is common enough in the Pyramid district, and some farmers who have mistaken Rigid rye grass for Wimmera rye grass have judged the latter accordingly. Rigid rye grass is an almost worthless grass, but Wimmera rye grass has the hardiness of the Rigid rye with some of the better qualities of the European rye grasses. Wimmera rye grass has a fault in that it spreads freely in cultivated ground, but under the rainfall experienced at Pyramid it should not be too aggressive.

Subterranean clover is the great complement to Wimmera rye grass, and it, too, already has demonstrated its worth and suitability for conditions on parts of the Tragowel Plains. It is a winter grower which carries on naturally where the rainfall is over 20 inches or where irrigation is available to supplement lower rainfalls. It does not grow in places which are under water for long periods. Farmers know the value of the "trefoils"—the name usually given to burr medick, the caltrop medick, cluster clover, woolly clover, suckling clover, &c.—which grow so well in parts of the district. Many farmers can recall the advent and spread of the trefoils, and they will know that they thrive in the better patches of land and in old cultivation ground where super. has been applied. In Subterranean clover we have a winter grower like them, but a fodder of superior quality.

Despite what has been said about the adverse effect of cover crops on young lucerne, both Wimmera rye grass and Subterranean clover may be established by sowing them with a cereal crop—10 lb. of Wimmera rye grass and 2 lb. of Subterranean clover per acre will suffice. The oats, wheat, or barley used for the cover crop should not be seeded too thickly. In the late spring the Subterranean clover is free to plant its seed, and this ensures a successful start in the following autumn. If sown without a cereal crop thicker seeding is recommended, but, by using judgment, even a light seeding may be the basis of a successful sward. The critical time is in the first year —after that the stand is likely to thicken.

A noteworthy development is the adoption of Rhodes grass, which has suddenly come into favour. Those who have sown this grass speak well of it. It is a summer grower, and should be sown in late spring. Autumn seedings are not likely to be successful, because the plant is susceptible to frost. It appeals to some farmers because of its adaptability to dry or wet conditions—hence, it does not call for refined irrigation practice as does lucerne.

It may be asked why growers in the Pyramid district are to be restricted to such a small range of pasture plants. Soil conditions there are not dissimilar to those in parts of the Goulburn Valley, and the summer climate is no more severe than is the case at Cohuna and Swan Hill, where excellent irrigated pastures of rye grass, white clover, strawberry clover, and paspalum are to be seen. It should be pointed out, however, that irrigated permanent pastures are exacting in regard to moisture, and unless moist conditions are maintained through the summer they will not be successful. Because of the large area at Pyramid to be served with water and the limited supplies available, it is obvious that the conditions are different to those obtaining in the closer settlement areas. Again, the soils there, except in places, do not take sufficient water to maintain moist conditions between waterings. Despite this, there are limited areas where mixed pasture is doing well, and there is evidence that Perennial rye grass, Cocksfoot, Strawberry, and Alsike clovers are adapted to the conditions even on the heavy soils.

Experimental pasture plots have been sown recently at Mologa Central on some of the plain land. The standard grasses and clovers have been sown in various combinations, and it is hoped in a few years to be able to present precise information regarding their values. The soil on the experimental plots is heavy, and will provide a severe test for them.

Until recently the common way of irrigating land at Pyramid was by wild flooding—banks being erected with the plough and delver at wide intervals to dam the water. It may be said in defence of the practice that, as the crops

irrigated were only annuals, more refined methods were not warranted. Millets and sorghums will endure wet conditions. Furthermore, the erection of numerous banks means robbing the surface soil, which is shallow enough on the plain land.

However satisfactory simple methods of applying water may be under these conditions, it is emphasized that progress into lucerne growing and clover culture will be fully successful only when the land is properly laid out—the method recommended being the so-called border system under which land is divided into narrow strips by small banks running in the direction of greatest slope at intervals of, say, 45 feet, and the land between the banks is levelled from side to side. Because of the absence of sidefall on land at Pyramid, relatively small banks are necessary. A convenient length for the bays formed by the checkbanks is 10 chains.

So many examples of good grading recently carried out were observed on the competing farms that it is not necessary to enlarge on this description of the system, but it is considered that the key to successful grading is the use of a louvre-grader which is becoming familiar. Useful work will be done with the scoop and buckscraper in razing bumps and filling depressions, and the buckboard is a simple implement which may be made by any farmer. These are useful in transporting earth. The louvre-grader consists of a rectangular frame across which are several scrapers—at least one of these is movable, and its depth of scraping is regulated by a lever. Such a grader has a fair length, and its action is to some extent automatic. Farmers are becoming familiar with this type of grader and its work and it is coming more and more into use.

Leading Farms.

First prize in the competition went to Mr. C. H. Miles, of Calivil Creek, who has a farm of 501 acres. At the first inspection 160 acres was under wheat (Ranee, Free Gallipoli, and Joffre), 25 acres under English barley, 80 acres in bare fallow, 33 acres of lucerne, and 40 acres in natural grass. The stock carried included fifteen cows and five heifers of mixed Jersey ancestry, a Friesian bull, and eight horses; usually about 50 sheep are carried. Pigs on hand were three pure Midde Yorkshire sows, a Tamworth boar, and 25 young ones, while 100 head of pure White Leghorn and Black Orpington hens were kept. The bull and pigs each had small paddocks as runs.

With the exception of the milking shed, the farm buildings were very good. The separator room and dairy were neat and clean; there was a well-built stable of nine stalls with a brick floor, a storeroom, chaff house, and machinery sheds. Implements and machinery were under cover. The layout and condition of the lucerne fields was very satisfactory, and the subdivision and fencing were good. The cereal crops promised fair yields. The home surroundings were improved by a nice garden and trees.

Mr. A. H. Stone, of Yarrawalla South, who gained second place, has a farm of 488 acres. Last year, an area of 110 acres was under wheat, 18 acres of barley, 42 acres of oats, 48 acres of lucerne, and 70 acres of fallow. There were also 6 acres of pasture, and 2 acres of orchard. Stock at the first inspection comprised twenty cows, eleven heifers, five steers, nine calves, and two bulls. Pigs included one large Yorkshire sow and boar, one Tamworth sow, and one cross-bred sow, in addition to 30 young ones. A few house poultry only were kept, and a small flock of sheep for killing.

The oldest lucerne was sown three years ago; 16 acres had been sown in 1930, and 6 acres had been regraded and resown—11 lb. per acre of lucerne seed being put in with a sprinkling of red and white clover seed, and 1 cwt. of super. The old lucerne was top-dressed with super. at the rate of 1 cwt. per acre. Mr. Stone's practice is to water the lucerne every three weeks during summer; the ground takes 3 inches of water at each watering.

The third prize farm, that of Mr. J. Leed, has an area of 315 acres, with a water-right of 44 acre feet. Eighty acre feet was used in the 1929-30 season. Mr. Leed had 20 acres under lucerne, 10 acres in mixed grasses and clovers, and 4 acres in Subterranean clover. In addition, he had some Rhodes grass, and a considerable area under summer fodders. Last year there were 20 acres sown to Nabawa wheat, and 30 acres of fallow, while 100 acres was sown with Wimmera rye grass, 50 acres of this receiving 1 lb. of Subterranean clover seed per acre as well. The Wimmera

(*Continued on page* 294.)

"Hard Seeds" in Subterranean Clover

By J. E. Harrison, B.Agr.Sc., Senior Agrostologist.

IF a number of seeds of Subterranean Clover are placed on moist blotting paper for a few days, it will be found that some of them will fail to germinate, and will remain hard and unaffected by the moisture. These seeds are known as "hard seeds." Their presence and number in any sample can be determined quickly and simply by soaking the sample in water for a few hours, and then separating swollen seeds which have absorbed water from unaffected or hard seeds.

This failure to absorb water marks the seeds as "hard," and their ready germination cannot be expected when they are sown in the field. The seed-coat surrounding the seed is impermeable to water, and until this condition is changed by some artificial or natural means, and water is absorbed, the seed will fail to germinate.

What becomes of these hard seeds when sown, and left in the soil, is a question that was solved, at least partly, by an experiment undertaken by Mr. F. Drake, Assistant Agrostologist of this Department. In a box of soil that had been heated in an oven to kill any other seeds present, ten rows each of 20 seeds of Subterranean Clover were planted on 27th May, 1929. At the end of each month a count was made of the seeds that had germinated, with the results shown in the accompanying table.

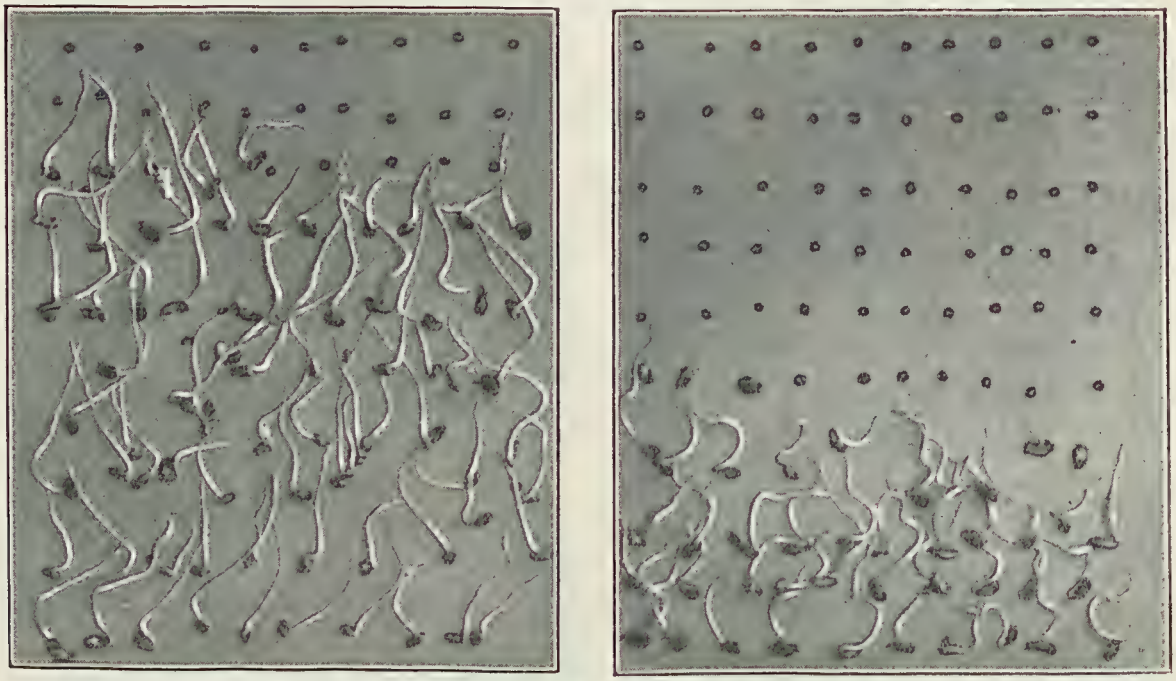
Though, with two exceptions, some seeds germinated each month after sowing, the numbers show wide variations. There were only two germinations of relatively large numbers of seeds, and the remainder were small. The first germination was of 28.5 per cent., and took place after the first good rain after sowing. The next important germination, of 27 per cent., occurred in February, eight months later, again after a good rain. The first germination agreed fairly closely with laboratory tests, and was apparently of normal, readily germinable seeds, i.e., not hard seeds. The remaining 71.5 per cent., it is considered, would consist almost entirely of hard seeds. It is significant that very few of these germinated—never more than 2.5 per cent. monthly—until the following autumn, when, after the first good rains, preceded by two months of hot, dry weather, another 27 per cent. grew, or approximately 37 per cent. of the hard seeds in the sample.

MONTHLY GERMINATIONS OF SEED OF SUBTERRANEAN CLOVER PLANTED 29TH MAY, 1929.

Date.	Germinations.	
	Number.	Percentage.
29th June, 1929	57	28.5
29th July, 1929	1	0.5
29th August, 1929	1	0.5
29th September, 1929	3	1.5
29th October, 1929	5	2.5
29th November, 1929	5	2.5
29th December, 1929	5	2.5
30th January, 1930	0	..
28th February, 1930	54	27.0
30th March, 1930	2	1.0
30th April, 1930	0	..
30th May, 1930	4	2.0
Totals	137	68.5

The experiment came to an untimely end through an unfortunate mistake, and is now being repeated to see what becomes of the remainder of the hard seeds. But, so far as it went, it gave interesting results, and allows us to conclude that at least a good proportion of hard seeds germinate at the normal time in the year subsequent to that of sowing.

Hard seeds are not peculiar to Subterranean Clover, but occur in many kinds of plants, principally legumes. Their value in preserving a plant species in any particular locality may readily be appreciated from the experiment just described. If hard seeds of any species are present in a soil, it would not matter greatly in any season, or apparently for several seasons, if the whole of the plants of that species occupying the ground were lost or destroyed through drought, or other cause. The remaining hard seeds would germinate eventually, and give the species a further chance to reproduce and preserve itself. Interesting, however, as this is, it has disadvantages from the point of view of the farmer who sows his seed, and looks for a rapid and



The Effect of Machine Threshing and Cleaning on "Hard Seeds."

The photograph on the left shows the germination obtained with seed threshed and cleaned by machine with all metal parts. The second photograph is of seed removed from the same burr by hand. The machine-dressed seed has a higher germination by 33 per cent.

complete germination, only to find that one seed germinates where he sowed two or more. There is little doubt that first year failures in sowing down Subterranean Clover may be due to the presence of hard seeds. Various commercial seed samples examined at Burnley Gardens have contained occasionally very large numbers; for example, as high as 90 per cent., but this is exceptional. The presence of 60 per cent. of hard seeds is not uncommon, however, and 40 per cent. is found frequently. The average of a number of samples tested at Burnley Gardens was 28 per cent., the lowest containing 6 per cent., and the highest 90 per cent.

It is well known that these hard seeds will germinate when scratched or pricked with a needle; or when steeped in strong sulphuric acid for 30 minutes, washed in lime water, and then rinsed in water; or when dropped in boiling water that is then allowed to cool off. These treatments were all tried in the Burnley laboratories, and in all cases satisfactory results were obtained, and the hard seeds germinated. These treatments, however, are not practicable on a commercial scale, and though the seeds may eventually germinate if sown in the soil, there is the loss and disappointment that occur when a poor strike is obtained.

At the present time, the best the purchaser can do is to buy on sample, and test the seed before making a purchase. This can be done, as previously mentioned, by steeping 100 or more seeds in water for a day. The hard seeds do not absorb water or swell, and their number can be quickly counted. A better method is to make an actual germination test on moist blotting paper or cloth placed in a dish, and covered over to prevent evaporation. In this way the number of hard seeds is readily discovered, and also the actual number that will germinate quickly. This gives a better indication than any other of the sort of strike that may be expected when the seed is sown in the soil. Another aspect that farmers should consider is the amount of seed to sow down. It is not unusual to sow 1 or 2 lb. only, but these amounts are small if hard seeds are numerous, and double those quantities are then necessary to give a fair strike.

For the information of harvesters of Subterranean Clover seed, the following simple experiment is described to show the effect that

(*Continued on page* 299.)

Tongala Farm Competition

Report of the Judges, Messrs. L. C. Bartels, B.Agr.Sc., Senior Irrigation Officer, Department of Agriculture, and R. G. Warden, Supervisor, State Rivers and Water Supply Commission.

IN the irrigated farm competition conducted by the Tongala Agricultural Society this year an endeavour was made to adjust the schedule of points so that entrants could be judged according to whether the major activity on the block was dairying, sheep-farming, or fruit-growing. So that soil quality or other favorable circumstances would not be an advantage to some settlers, the points were based more on farming practices than on quality of crops and production. It will be noticed that some competitors would have figured more prominently but for failing to score in one particular section.

A Settler's Home.

The general excellence of the exhibits was most marked, and the district showed to better advantage than has been the case for many years past. There was an abundance of feed, while the co-operative butter and cheese factory reports a much increased turnover and, despite reduced prices, payments greater than during the previous year. Although this condition was contributed to by favorable seasonal conditions, a definite advance in methods has to be recorded. A critical examination of the leading farmers in the competition shows how little they rely on chance; the lay-out of their farms, their cropping methods, irrigation practice, top-dressing, breeding and selection of stock, conservation of fodder all contributed to their progress.

Mr. T. Gass, who was awarded first prize, has been on his block of 54 acres for twenty years. At the times of judging he had 19 acres in lucerne, 21 acres in mixed pasture,

and 4 acres of old lucerne ground in oats and, later in Sudan grass. The homestead and two little hillocks accounted for the remainder. The block carried 34 milking cows, a Friesian bull, nine heifer calves, three working horses, and one pony. The cows are of the Shorthorn type, and were bred on the block. Herd tests results show that their average production is about 270 lb. of butter-fat per annum. The block is divided into ten paddocks. Some of the lucerne on this farm is nearly twenty years old; and that it is still productive is accounted for by the treatment it has received, having been mainly cut and fed as a soiling crop.

When this lucerne was put in, a very small area was sown with grasses and clovers, many of which have persisted. It is an interesting fact that the old lucerne which is thinning is admixed with rye grass, both perennial and Italian, and the Italian rye grass is thick in younger lucerne on other parts of the farm. Like prairie grass Italian rye grass is spreading in the irrigation districts, and is likely to become a valuable element.

Mr. Gass has a paddock of mixed pasture eleven years old, and during the last four years he has increased the area of pasture on his farm to 21 acres. This is an evidence of his appreciation of the grasses and clovers; and he is better able to speak of their value compared with lucerne, because of the assiduous care with which he has handled his lucerne stands. The pastures on this block are watered every fortnight, 3½ inches of water being required for each irrigation. Mr. Gass's practice is to graze for a week and rest the paddock for three weeks. The whole area under crop was top-dressed with a bag of superphosphate per acre, 10 acres receiving two bags. Sixty tons of excellent hay was stacked, and 10 tons had been sold. Pigs on the farm included two brood sows and their litters, while 40 White Leghorn hens were kept.

Mr. G. Duck, who secured second prize, is regarded as one of Tongala's most successful settlers. His block, which has an area of 68 acres, is subdivided into eleven paddocks and the homestead. Two paddocks of lucerne are retained, two paddocks were sown down in pasture, and the remainder of the area is in white clover and rye grass, which has developed in old lucerne. The block carries 25 milking cows, six two-year old heifers, fourteen yearlings, eleven poddies, and four horses. In 1912, eighteen milking Shorthorns were purchased. These were headed originally by a Jersey bull. Later, a Shorthorn bull was purchased, and now a Friesian bull is in use.

Mr. Duck delivers his milk to the cheese factory, and, although payment for butter-fat there was 1d. per lb. less than at the butter factory, his 23 cows gave an average return of £28 for the year. Herd-testing results showed the average butter-fat production of his cows to be 375 lb. On the farm were five cross-bred sows and a large Yorkshire boar, ten bacon pigs, nine slips, and three litters, totalling twenty. The progeny of the five sows gave a gross return of £409, of which £209 was clear profit. At the first inspection there were 528 ewes and lambs on the block, and at the second inspection 250 ewes remained.

Despite the number of stock carried, there was a surfeit of feed on the pastures, and this detracted from their appearance. Stacks of lucerne and grass hay contained 55 tons. Mr. Duck used 9½ tons of super. on the block during the year, and in the 1929-30 season 30 inches of water was applied, but this was an extended watering season.

Third highest points were secured by Mr. Harold Hanslow, who is primarily a sheep-farmer. Mr. Hanslow pins his faith to lucerne and cereal crops grown with the lucerne or in rotation; and the results justify that faith. He is not favoured by good soil conditions, but it is noteworthy that his system of farming is improving the quality of his land as measured by soil texture and productivity, and the general excellence of his lucerne at the second inspection was a splendid feature.

His block of 96 acres has a water-right of 120 acre-feet, but he always uses more. The area under lucerne was 58 acres, while 5 acres was in Sudan grass, and 20 acres in oats. Yards, buildings, and orchard occupy 6 acres. An area of 16½ acres of lucerne was sown with wheat, and the remainder of the lucerne, except 10 acres sown in 1929, had oats. The farm has sixteen rectangular paddocks, and this subdivision meant the construction of 205 chains of channel, and 275 chains of sheep-proof fencing. There were eleven bridges over channels, and 27 stops constructed in the channels. Fifteen shade trees in guards were planted in the centre of the paddocks. Other features of the farm were a sheep-yard with accommodation for

1,500 sheep, a sheep dip, a woolshed with a two-stand shearing plant, a stable with stalls for six horses, and a chaff-house filled with 18 tons of chaff.

Last year practically two bags of super. was applied to each acre of the farm in two dressings. Mr. Hanslow aims at reseeding 10 per cent. of his lucerne each year. When the old lucerne is ploughed up the land is sown with oats for grazing, then follow Sudan grass, oats, Sudan grass, and lucerne. The lucerne seed is sown in autumn at the rate of 10 lb. per acre, and an early-maturing wheat is sown with it for hay—the rate of seeding for the wheat being 60 lb. per acre.

In grazing the lucerne, 500 sheep may be concentrated in a 5-acre paddock for three days; 300 seconds follow on, and ewes clean up.

At both inspections there were 1,000 sheep on the block, and 530 ewes were brought through the 1930 winter. Five working horses are on the farm, and 100 bee-hives kept on a half-share basis are a profitable adjunct.

Detailed awards are appended:—

—	General Layout for Irrigation and Conveniences for Working.	Percentage of Land under Cultivation.	General Condition of Stock.	Provision for Shelter, Shade, and Water.	Control of Water and state of Channels.	Conservation of Fodder.	Manuring—Green and Artificial.	Pigs and Poultry.	Any Commercial Sideline.	Fences.	Cultivation and Care of Farm or Orchard.	Farm Buildings.	Freedom from Weeds.	Care of Implements.	Home Gardens, etc.	Total Points.
Possible Points	55	40	20	20	30	30	30	20	5	20	20	20	20	15	15	340
DAIRY FARMS.																
Gass, F.	48	38	16	..	25	27	26	14	3	17	18	17	19	10	9	287
Duck, G.	44	38	17	..	20	27	27	16	4	18	16	17	16	12	11	283
Rowley, A. W.	50	35	14	..	24	29	20	9	2	18	16	16	18	10	12	273
Fuller, S.	50	38	15	..	25	22	22	14	..	17	18	13	16	10	10	270
Pattison, F.	47	36	18	..	22	26	24	11	..	16	15	16	17	11	11	270
Watson, E.	48	33	15	..	23	26	24	13	..	17	15	17	18	9	9	267
Coombes, T. A. P. ..	48	30	18	..	20	25	26	9	3	16	15	15	15	9	12	261
Rothwell, S.	49	36	15	..	19	21	20	14	..	17	16	15	17	9	10	258
Tinning, W. J.	46	30	17	..	22	24	24	8	..	17	16	18	17	10	9	258
Gread, F. W.	48	33	17	..	21	28	12	12	2	18	14	16	16	10	8	255
Archibald, L.	47	35	19	..	16	15	20	13	..	15	12	16	16	11	11	246
SHEEP FARMS.																
Hanslow, H.	44	39	..	13	26	29	28	..	5	17	19	18	19	14	10	281
Woolard, C.	49	37	..	9	22	25	25	7	2	17	15	16	17	10	14	265
Caldecott, R.	48	36	..	10	22	10	29	6	2	19	16	15	16	12	10	251
Moulden, L.	43	37	..	9	25	..	26	7	..	17	17	13	17	8	12	231
McLeod, N.	47	34	..	13	22	..	25	3	..	17	14	13	13	..	10	211
ORCHARDS IN CONJUNCTION WITH SHEEP OR DAIRY FARMS.																
			Trees.			Freedom from Pests and Diseases.										
Burbury, A. R. and T. H.	47	34	19	..	24	25	28	8	5	18	18	15	18	7	14	280
Makin, P.	47	36	17	..	26	25	28	10	5	17	17	15	17	7	13	280

Pasture Competition.

The growing popularity of mixed pastures under irrigation is evidenced by the steadily increasing area sown in the Tongala and other irrigation districts. From a show stand-point, the exhibits were not quite so good as in past years. There had been such prolific growth in spring that they did not present that desirable evenness of sward which characterizes the hard-grazed pasture. In previous years, when no farmer had big areas of irrigated grasses and clovers, almost through necessity intensive grazing was practised, a circumstance making for the production of high-quality pasture.

Mr. T. Gass showed the winning pasture, which comprised an area of 6 acres. This was a young pasture sown at the end of July; oats and Sudan grass being the preceding crops. The ground was ploughed in autumn, worked down, and sown with the mixture recommended by the Agricultural Department. This includes Perennial Rye grass, 10 lb. per acre; Italian Rye grass, 3 lb.; Cocksfoot, 5 lb.; Perennial Red Clover, 2 lb.; White Clover, 1 lb.; Alsike Clover, 1 lb.; Sub. Clover, 1 lb.; Strawberry Clover, ¼ lb.; and lucerne, 1 lb. per acre. Mr. Gass increased the Cocksfoot seeding to 7 lb. per acre. This indicates the growing appreciation of Cocksfoot as a grass for irrigated pastures in the north. Under close grazing it proves itself a hardy productive grass for which cattle and sheep show a preference. Cocksfoot thickens as pastures get older, and a heavy seeding is not necessary. At the first inspection the pasture showed a wonderfully fresh growth with the legumes prominent.

Mr. T. B. McClusky's pasture exhibit was an old lucerne paddock of 4 acres, which had been sown in August, 1929, with the departmental mixture, plus 5 lb. of lucerne. Superphosphate at the rate of half a bag per acre was applied at seeding, and in September, 1930, and again in January, 1931, dressings of 1¼ cwt. per acre were applied. In summer, one paddock is watered nearly every week. This pasture had been leniently treated before inspection, and its condition suffered in consequence in that it was more open than advisable, and lucerne and Cocksfoot were showing too conspicuously.

Mr. E. Watson submitted to the judges two paddocks of pasture. His "B" exhibit of 7¾ acres was a young pasture. In preparation for sowing this, the land was watered in March, ploughed and reploughed, levelled, rolled, and checkbanked. The seed was sown at the end of April, being broadcast with a bag of super. per acre. After sowing the paddock was harrowed. The mixture sown was the same as above, but the seeding was heavier. There was a good germination following rain soon after sowing. Some unevenness was apparent at the first inspection, and there was evidence of the hasty preparation, but at the second inspection the pasture presented a beautifully fresh appearance with rye grass prominent, and a good mixture of clover plants showing.

Awards are as follow:—

PADDOCK OF PASTURE.
(Minimum Area 3 acres.)

Name of Competitor.	Layout of Ground for Irrigation, Condition of Channels and Drains.	Condition of Pasture.	Uniformity.	Mixture.	Absence of Weeds.	Total.
Possible Points ..	20	20	20	20	20	100
Gass, T.	19	17½	18½	19	19	93
McCluskey, T. ..	18½	17½	18	19	19	92
Watson, E. ("B" exhibit)	18	17½	18	19	19	91½
Coombes, T. A. P. ("C" exhibit) ..	18½	18	17½	18	19	91
Watson, E. ("A" exhibit)	18½	18	17½	18	18½	90½
Coombes, T. A. P. ("B" exhibit)	18½	17½	17	18½	18½	90
Burbury, A. R. ..	18	17½	17½	18	18½	89½
Shipley, C.	17½	17½	18	18½	17½	89
Tinning, W. J. ..	17½	17½	17	18½	18½	89
Foley, C.	17½	18½	17	17½	18	88½
Coombes, T. A. P. ("A" exhibit)	18½	17½	17	18	17½	88½
Grigg, H.	18½	14	18½	17	19	87
Davis, A. R... ..	16	17½	16	18½	17½	85½
Davis, J.	17	16½	16	18	18	85½

Orchard and Garden Notes

By Edward E. Pescott, F.L.S.

The Orchard.

Windbreaks.

THE necessity for the protection of orchard trees from wind is apparent to every one. In Australia, the orchard usually does not require protection from the sun; but protection of the trees from cold winds and of the fruit from injuries liable to be caused by swaying limbs is very desirable. It does not necessarily follow that every orchard requires a breakwind on all sides. The placing of a breakwind must be done with judgment, having relation more especially to the prevailing winds.

A fine Windbreak of Osage Orange.

Two types of plants may be considered for this work, either trees or shrubby hedge plants; and in regard to trees, the orchardist may consider whether he will plant economic or shade-foliage trees. Whatever is planted, the soil preparation must be of such a character that will ensure, if possible, deep rooting. Of course, many trees possess shallow rooting characteristics; and, with these, no matter what may be done in the way of deep cultivation and manuring, the roots would still remain on or near the surface. Of this class, the pepper tree, Moreton Bay fig, pinus insignis, and some of the eucalypts are notable examples. Such trees are entirely unsuited for orchard breakwinds, unless they are planted along the boundary, with a road between them and the fruit trees, and unless arrangements are made to cut the spreading roots annually.

Sometimes a grower may desire to plant economic plants or trees. For this purpose, figs, olives, almonds, pears, quinces, hazels, or filberts (cool climate), Queensland nut, and chestnut (cool climate) have been used, while ordinary fruiting trees, such as pears, apples, and oranges also have been planted for the purpose.

In planting such trees, care must be taken that deciduous trees are not used where protection from winter winds is needed. Under such circumstances, an evergreen shelter must be provided.

Again, when considering the planting of such trees as apples, pears, hawthorns, citrus, that would certainly require spraying, the labour, and the season for spraying must have some consideration.

Among ornamental trees, the following evergreens will deserve attention for this work:—Pittosporum, ornamental flowering eucalypts, kurrajong (slow growing), cypress pines, wilga, silky oak, she oak, apple box, giant bamboo, agonis, brush box, cedar (cold climate), oregon (cold climate), cypress. Among deciduous, the following could be planted:—Hawthorn, osage orange, poplar, straight willow, chestnut, and others. Acacias or wattles should be avoided at all times, owing to their susceptibility to boring insects.

The Flower Garden.

This is the time when the gardener carries out many of his so-called tidying operations. The garden should be dug out in winter; and, at the same time, many plants are pruned. Only those plants should be pruned that have just completed flowering, including roses. And in the case of shrubs, the pruning should

be confined to thinning out the overcrowded portions of the bush, opening them out to let in light and air.

Before digging, it will be well to give the soil a good lime dusting, as most plants relish an annual dressing of lime. There are a few garden plants that are lime haters, and it might be well to mention these, so that the lime can be kept away from them. They are Rhododendron, Lilium (except the Madonna Lily), Azalea, Kalmia, Lily of Valley, Japanese Iris, Erica, Ferns, Anemone, and Andromeda.

The Vegetable Garden.

Asparagus beds should be cut down, burning all weeds and stems. Furrows or trenches may be cut between the rows or between the plants so as to allow for good winter drainage. Towards the end of July, the bed may be given a dressing of potash and bone manure, filling in the spaces with old animal manure. If this latter would make the bed too high, some of the old soil could be cleared away before applying the manure. The soil, however, should have a depth of several inches above the crowns, to allow the stems to be suitably blanched.

Rhubarb crowns should be replanted at least after the third season. The crowns should be dusted over with Cliff's manurial insecticide to avoid bulb mite; they should then be planted several inches deep into the richest of soils. Rhubarb is a very gross feeder, and probably requires more plant food than any other vegetable crop.

The general crop of tomato seeds may now be sown, sowing the seeds under glass or flexoglass frames, and in a light free soil. As soon as the plants are a few inches high, they may be picked out into boxes or pots, and when separately rooted, planted out into the garden.

Pyramid Farm Competition

(*Continued from page* 286.)

rye grass had made surprising development, and the Subterranean clover was establishing itself well. Mr. Leed was milking 30 cows of mixed types. He had besides twenty dry stock and young cattle and a Jersey bull, 30 pigs, and 42 hens. His lucerne was top-dressed with one bag of super., and 25 acres of the rye grass received an application at the rate of 1 cwt. per acre.

Detailed awards are appended:—

Points Awarded.—Average of Two Inspections.

Competitors' Names.	General Layout for Irrigation.	Percentage of Land under Cultivation, Condition of Crops, and Fallow.	Convenience for Handling Dairy Herds and Sheep.	Returns from Farm and General Appearance of Stock.	General Control of Water, including Condition of Channels.	Condition of Fodders.				Poultry and Pigs or other Sidelines.	State of Fences and Subdivisions.	Farm Buildings.	Freedom from Weeds.	Care of Implements.	General Appearance of Immediate Surroundings of Dwelling.	Total Points.
						Lucerne and Pastures.	Summer Fodders Growing.	Conserved Fodders.	Natural Fodders.							
Possible Points ..	**30**	**30**	**8**	**4**	**14**	**40**	**10**	**13**	**2**	**4**	**8**	**6**	**6**	**10**	**10**	**200**
Miles, C. H.	28	26	5	2	9½	28	..	12	1	3	6	3½	3	6½	8½	142
Stone, A. H... ..	25	23	5½	2½	8	29	..	12	1½	2½	6½	5	4½	7	8	140
Leed, J.	25	24	5½	2	8	31	7	10	1	3	5	4	3	5	5	138½
Gilmour, T., and Sons	19	16½	6½	3½	6½	23½	9	17	1½	2½	4½	4	4	5	7	130
Young, W. I., and Sons	23	22	5½	3½	7	25	3	17	1	2½	4	4	3	4½	4½	129½
Mackinnon, J. MacG.	22	20	5½	3	7½	25	..	15	1	2	6	4	3½	8	5	127½
James, G. H. .	23	20	4	2½	7½	32	..	10	1	2½	5½	2½	3	4½	5½	123½
Johnco, A. T. ..	25	19	4	2	9	22½	9	9	1	2	4½	2	3	5	5	122
Wood, C., and Sons ..	22	17	5	2½	7	26	..	15	1	3	5	3	3½	4½	5	119½
Miles, A. J.	21	23	3½	2½	6½	25	..	13	1	2	4	3	3	5	5	116½
Alford, R.	23	12½	6	3	7½	27	3	10	1½	2½	4½	2½	4	3½	5	115½
Pearce, W.	22	17	4	2	7	22	5	10	1	1½	5½	3	3	6	3	112
Glew, W. H. ..	24	11	5½	3	6½	19	..	14	1	2½	4	3	3	5	4½	106
Stephens, S. ..	17	18	4½	2½	6½	20	3	5	1	3½	4	2½	3½	4½	5	100½

Stallion Register 1930-31

(Under the Horse Breeding Act 1928)

Part 2.—Stallions registered from 1st September, 1930, to 31st March, 1931

Part 1 of the Register appeared in the May issue of this Journal

Cert. No.	Name.	Age—Years.	Class.	Owner.	Address.
743	Abbots Best	A	Draught	Jas. Egan	Barwite
726	Admiral Roy	4	Light	H. A. Kent	Albert Park
784	Allan Stewart	A	Draught	W. B. Tonks	Caniambo
661	Angle Jack	A	Light	C. T. Hillas	Tallangatta
585	Athol Pat of Fenwick	4	Pony	Mrs. A. Maclean	Yan Yean
685	Aurelius	A	Light	N. S. Lett	Sale
586	Aussie Didblitz of Fenwick	5	Pony	Mrs. A. Maclean	Yan Yean
587	Austral Pat of Fenwick	4	,,	G. W. Faithful	Inveralochy
570	Balgrochan Warrior	5	Draught	Jas. Galloway	Majorca
767	Bando	A	,,	J. Noonan	Birchip
522	Banjo	5	Pony	Mrs. S. A. Nicol	Dandenong
713	Baritone	A	Draught	J. Tallent	Berrybank P.O.
662	Baron	A	,,	J. E. Morley	Beulah
678	Baron Brilliant	A	,,	M. P. Murphy	Rupanyup
608	Baron Douglas	A	,,	J. Petrie	St. Arnaud
705	Baron Dreadnought	A	,,	Jas. Hay	Numurkah
541	Baron Fashion	A	,,	A. Hamilton	Corryong
742	Baron Fenwick	A	,,	W. Gardiner	Waaia
566	Baron Fenwick	A	,,	L. Crapper	Neilborough
549	Baron Fyvie	A	,,	Shields Bros.	Youanmite
536	Baron Masterstroke	4	,,	Ellwood Bros.	Wallace
718	Baron Style	A	,,	J. P. Belleville	Watchem
739	Baron Victor	A	,,	A. Smith	Ellerslie
548	Belmain	A	,,	J. McKie	Sea Lake
561	Benowrie Baron Dale	3	,,	S. Gould	Wedderburn
580	Berkeley Bantam	A	Pony	R. Crozier	South Morang
573	Berwick Victor	A	Draught	R. Day	Nathalia
753	Black Diamond	A	,,	A. H. Hooper	Dookie
660	Black Shepherd	A	,,	Simpson Bros.	Yambuna
740	Bobby	A	Pony	G. Officer	Woolsthorpe
677	Bold Agitation	A	Draught	J. Pitman	Colac
535	Bold Dale	4	,,	N. W. Quick	Mollongghip
759	Bold Favourite	3	,,	A. White	Derby
744	Bold Success	A	,,	J. Rumbold	Laanecoorie
749	Bonnie Baron	A	,,	R. N. Scott	Kongwak
609	Bonnie Belmont	A	,,	J. T. Watkins	Euroa
582	Bonnie Knight	A	,,	A. McLennan	Derrinal
547	Bonny	3	,,	P. Shanahan	Axedale
589	Breastknot	A	,,	W. J. Moll	Dimboola
523	Brewan	6	Thoroughbred	W. Woodhouse	Stratford
750	Brilliant Jim	A	Pony	R. N. Scott	Kongwak
631	Brilliant Morn	A	Draught	W. Crozier	South Morang
529	Briton's Bold	A	,,	F. W. Lennecke	Detpa
769	Butes Flashdale	4	,,	A. S. Rossiter	Glenorchy
663	Byland's Brilliant	6	,,	H. D. Adams	Kotupna
728	Capitalist	A	,,	A. K. Urquhart	Hexham
565	Captain Llewellyn	A	Light	Horne and Son	Balmoral
598	Carovita	A	Pony	T. Dean	Cann River
527	Cliffdale	4	Draught	J. McGee	Beulah
757	Clyde Laddie	A	,,	A. Welsh	Violet Town
768	Colonel Mac	A	,,	L. Taylor	Leitchville
641	Conqueror	A	,,	M. McKinnon	Berriwillock
747	Corrong Chief	A	,,	E. Uebergang	Roseberry

STALLION REGISTER 1930-31—*continued.*

Cert. No.	Name.	Age—Years.	Class.	Owner.	Address.
652	Cooring Dale	A	Draught	A. N. Hamilton	Bannerton
731	Corporal Kelvin	A	„	E. D. McCann	Lake Charm
772	Count Rhymney	A	Pony	Bourke Bros.	Monomeith
659	Craig Athol	A	Draught	A. W. Green	Marungi
773	Craig Avon	A	„	W. Walter	Tatura
774	Craigwillie of Bolobek	A	„	W. Walter	Tatura
735	Cronje Wilkes	A	Light	G. B. Mackie	Camperdown
597	Cruncher	A	Draught	Sharp and Taylor	South Melbourne
664	Cymbrel	A	Light	S. Hancock	Poowong
745	Dalcrombie	A	Draught	J. Rumbold	Laanecoorie
607	Dalla Derby	5	Light	F. W. Shillito	Yendon
624	Dalmore	A	Draught	H. Woods	Watchem
557	Dalradient	5	„	J. B. Ferguson	Waubra
789	Dandy Luck	A	Pony	Mrs. M. Johnson	Doreen P.O.
651	Derby Childe	3	Light	L. J. King	Barraport
741	Dibdale	A	Thoroughbred	G. Officer	Woolsthorpe
559	Dinna Forget	3	Draught	J. B. Ferguson	Waubra
680	Domination	A	Pony	C. T. Lucas	Pomborneit
644	Don Alto	A	Light	W. Ritchens	Wangaratta
782	Donnibristle	A	Draught	J. G. Wilson	Milawa
613	Don Tourie	A	Light	J. Dillon	Bannerton
758	Douglas Chief	A	Draught	D. Trewick	Elmore
686	Drumry's Pride	6	„	J. Maher	Tatura
779	Dunira James	A	„	G. H. Allen	Beulah
790	Dunmore's Pride	A	„	J. Doherty	Bungaree
764	Earl Direct	A	Light	F. McClelland	Boort
567	Ebony Stamp	A	Draught	McCrae and Thornton	St. Albans
783	Eclypse	A	„	A. McKinnon	Walpeup
564	Factotum	A	„	G. Biggen	Willaura
520	Fairboy	5	Pony	J. J. Slater	Sale
736	Fashion's Model	A	Draught	A. B. Hamilton	Fish Creek
695	Fine View Dignity	3	„	T. F. Delahunty	Murtoa
533	Fine View Favour	4	„	Hehr Bros.	Wollert
633	Firebrick	A	Light	P. Higgins	Heyfield
665	First Grattan	A	„	H. D. Adams	Kotupna
512	First Voyage	A	„	W. J. Minns	Melton
729	Flash Dunure	4	„	J. Bagnell	Mologa
516	Flash of the North	3	Draught	P. Bagnell	Mologa
777	Gallant Jock	A	„	W. Hooper	Bungeluke
610	Gay Willie	A	„	D. King and Son	Rutherglen
627	General Foch	A	„	J. W. Sykes	Haysdale
715	Glen Arthur	A	„	J. Alexander	Caniambo
637	Glen Cairn	A	„	W. T. Mitchell	Bethanga
684	Glen Isla	A	„	F. Perry	Corack L.B.
528	Glenscott	A	„	A. B. Gibbins	Murrabit
704	Globe's Image	5	Light	J. Ohlin	Gooramadda
593	Gortland	A	Thoroughbred	Police Department	Melbourne
616	Grampian Lad	A	Draught	E. P. Kealy	Edenhope
599	Grand Derby	A	Light	M. Boland	Middle Brighton
602	Grand March	A	Draught	W. M. Hughes	Inglewood
502	Grand Opera	4	Light	J. J. Guidice	Kangaroo Flat
594	Guy Fawkes	A	„	H. Bartram	Heidelberg
694	Heather Douglas	A	Draught	W. G. Young	Neerim
717	Heather Jock	A	„	G. A. Dunnett	Stockyard Hill
763	Herdsman's Treasure	A	„	W. G. Cobbledick	Bunbartha
606	Heros Lad	6	„	W. Fowler	Kerang
648	Humoresque	A	Pony	A. C. Bayley	Willaura
601	Huon Marvin	3	Light	F. G. Missin	Rockbank
554	Huonville	5	„	C. H. Burkinshaw	Warrek
710	Invermay	A	Draught	S. G. Hayward	North Wangaratta
770	Jack McKinney	A	Light	D. Moriarty	Wee Wee Rup
530	Jackie Coogan	A	„	F. Benbow	North Wonthaggi
590	Jester of Shetland Heights	4	Pony	Mrs. L. Bayford	San Remo
630	Jock Cedric	A	Draught	J. W. Gardner	Cavendish

STALLION REGISTER 1930-31—*continued.*

Cert. No.	Name.	Age—Years.	Class.	Owner.	Address.
638	Kelm Pride	A	Draught	C. Lippiatt	Scotsburn
619	Kennedy's Pride	3	,,	H. S. Graham	East Malvern
730	Kerrsdale	6	,,	E. Wilson	Leongatha
640	Khartoum	A	,,	M. J. Bland	Frances
657	Kilmore	A	,,	W. Gribenow	Orbost
771	Kilty	A	,,	J. McErvale	Trawalla
693	King Dale	6	,,	P. Glenane	Ballarat
581	King John	A	,,	W. Hillman	Huntly
588	King's Pride	A	,,	J. Rose	Pakenham
622	King's Prize	A	,,	D. Cuthbert	Camperdown
592	Kinlock Hero	4	,,	F. H. Baker	Jung
525	Laurence Drew	4	,,	W. W. Wheelhouse	Wehla
579	Le Grand Flash Footstep	3	,,	W. T. Rodda	Tarranyurk
617	Lee Creek Squire	A	,,	Mrs. H. McConachey	Winchelsea
611	Leonard Dale	A	,,	D. McDonald	Myrniong
723	Little Argyle	A	Pony	W. MacKenzie	Seaspray
778	Little Leo	A	,,	Mrs. A. Bray	Croydon
766	Little Mac	A	,,	R. Cumming	Mortlake
727	Little Pos	A	Thoroughbred	A. K. Urquhart	Hexham
634	Lord Belmont	A	Draught	W. K. Stokes	Riddell
780	Lord Huntly	A	,,	J. Orr	Dunnstown
703	Lost Time	A	Thoroughbred	J. E. McBurnie	Malvern
791	Lymm Loden	A	Draught	A. F. Emery	Tarnook
560	McLeish	5	,,	L. F. McLeod	Yarram
748	Major Again	A	,,	H. Brown	Minyip
760	Major Clyde	A	,,	J. M. Gleeson	Corack East
563	Major Douglas	A	,,	J. W. Scott	Katyil
636	Major Mac	6	,,	H. Henderson	Barrapoort
756	Malt Lawn	A	Light	J. J. Sherry	Morwell
666	Maori Jack	A	Draught	A. Potter	Naroghid
761	Marcellus II.	A	,,	Forrest Bros.	Orford
524	March Along	A	,,	H. Carr	Manangatang
635	Maritimus	A	,,	T. J. Opie	East Kew
628	Mark Twain	A	,,	H. Wharton	Manangatang
697	Marquis Bold	A	,,	L. Scollary	Logan
667	Masterdale	6	,,	F. F. Kerr	Yeoburn East
519	Masterstroke	3	,,	H. Parish	Winchelsea
676	Maurite	A	Light	O. S. Ovens	Tatura
626	McKenna of Shetland Heights	5	Pony	W. E. Clinton	Heidelberg
656	Mid-day	A	,,	J. Bannam	Wallacedale
542	Midnight Voyage	4	Light	J. Buchanan and Sons	Rochester
792	Model's Herod	A	Draught	M. Hutcheson	Pine Grove
687	Mont Harold	A	Light	W. Curtis	Glen Waverley
668	Montrose	A	Draught	McNaughton Bros.	Wycheproof
572	Moredun Ranger	A	,,	Executors of the late J. K. Mitchell	Sandford
669	Moving Picture	A	Light	C. D. Brown	Nanneella
577	Nelson Chief	A	Draught	L. Morrish	Bullarook
540	Netherhall	A	,,	J. G. Bunworth	Donald
551	Nimitybelle Mac	3	,,	Craven Bros.	Toolamba West
545	Norseman of Shetland Heights	6	Pony	Miss M. Small	Windsor
521	Onward	4	Draught	W. Bean	Sale
721	Onward Star	A	,,	R. Williams	Dunbulbalane
689	Oxford	5	,,	S. T. and W. C. Capron	Lethbridge
762	Panacea	3	,,	N. Ramsay	Newbridge
751	Patrus	A	Thoroughbred	R. Biggar	Waaia
746	Pearlyn	A	Light	F. W. Bowden	Won Wron
558	Pedlar	4	Draught	McQuinn Bros.	Waubra
675	Premier Jack	A	,,	V. Vaughan	Condah
562	Present	A	Pony	J. G. Adams	Mansfield
699	Prince Charles	A	,,	J. Dawkins	Colac
543	Prince David	3	Draught	R. D. Buckley	Glenlee

STALLION REGISTER 1930-31—*continued.*

Cert. No.	Name.	Age—Years.	Class.	Owner.	Address.
657	Prince Ecuador	A	Thoroughbred	F. Hender	Broomfield
785	Prince Harold	A	Pony	I. J. Robertson	Wallacedale
722	Quality	A	,,	A. E. Callow	Ballarat
754	Queen's First	A	Draught	W. Hards	Meringur
578	Real O.K.	6	,,	J. Phillips	Congupna Road
702	Red Lion	A	Pony	J. C. Whitehead	Minhamite
674	Richard III.	A	,,	A. Ruttle	Inverloch
539	Robinhood	A	Draught	J. McKee	Clarendon
532	Robin Vale	3	,,	J. Mason	Wollert
646	Roseneath Baronet	A	,,	J. H. Fuge	Great Northern
786	Rose of Rexworth's Pride	6	,,	J. Lang	Wattle Flat
752	Rostrata	3	Light	K. Urquhart	Hexham
690	Roy	A	Pony	J. B. Cleeland	Phillip Island
673	Royal	A	Draught	J. H. May	Joel Joel
688	Royal Banker	3	,,	F. B. Ampt	Gymbowen
720	Royal Blend	3	,,	T. J. Opie	East Kew
553	Royal Chief	A	,,	W. P. Lancaster	Miram
709	Royal Comedy	A	Thoroughbred	E. C. Amor	Yarram
632	Royal Craig	A	Draught	H. Trimble	Pine Lodge
568	Royal Gaiety	6	,,	N. Sprott	Queensland
672	Royal George	A	Pony	S. O. Wood	Nagambie
724	Royal Mac	A	Light	Charity Bros.	Serpentine
655	Royal McGregor	A	Draught	Mortlock Bros.	Nullawil
531	Royal Prince	3	,,	C. C. Barrie	Melton
765	Royal Shepherd	A	,,	J. and G. Hadden	Charam
571	Royal Stamp	3	,,	N. Ramsay	Newbridge
583	Sacedon	6	Thoroughbred	Police Department	Melbourne
550	Sampson	5	Draught	Stockdale and Bingham	Thorpdale
707	Scotch Drummy	3	,,	E. A. Baker	Gillieston
612	Scotch Prince	A	,,	Evans Bros.	Moyhu
670	Scotch Thistle	A	,,	J. Bagnell	Mologa
449	Scotchie	A	,,	I. Kelly	Korongvale
719	Scotland Again	A	,,	Jas. Mulholland	Eurobin
629	Scotland Again	A	,,	A. McDonald	Mount Wallace
621	Scotland Forever	6	,,	S. Rogers	Rainbow
649	Scotland's Bloom	A	,,	G. Burgess	Jallumba
737	Scottie	A	,,	T. Fulham, junr.	Torrumbarry
546	Scottish Chief	3	,,	S. J. Lynn	Orbost
538	Shanter Junior	A	,,	C. Muhleison	Wooreen
642	Selkirk	A	Thoroughbred	A. Scott	Elmore
776	Simon Again	A	Draught	C. T. Wallis	Hunter South
557	Simon's Son	5	,,	T. A. Nicholson	Campbelltown
734	Sir Bute	A	,,	A. McInnis	Boisdale
706	Sir Craig	3	,,	N. R. Pitts	Merrigum
738	Sir Prince Argos	5	,,	A. D. McLean	Tempy
755	Sir Richard III.	A	Pony	W. Henderson	Grasmere
600	Sir William	A	Draught	W. A. McClellan	Bungaree
534	Sir William's Pride	4	,,	Quick Bros.	Mollongghip
654	Soldier Boy of Fenwick	6	Pony	Miss S. R. Robinson	East Malvern
683	Southern Star	A	Draught	J. Maher	Rynaby
712	Spenagnes Baron	3	,,	G. Robinson	Warrenbayne
700	St. Mark	A	,,	C. W. George	Beulah
645	St. Simon	A	,,	G. J. Butler	Carisbrook
788	Stylish Kennedy	6	,,	D. Revitt	Cobram
692	Tereena	5	Light	A. S. Boyd	Shepparton
781	The Globe	A	,,	J. Barker	Coburg
537	The Standard	A	Draught	J. Forsyth	Murrayville
618	Thornfield Craig	A	,,	E. J. Leeder	Cope Cope
500	Tiny Tim	3	Pony	R. Winterbottom	Mincha
691	Tom Thumb	A	,,	T. McGrath	Irrewillipe
716	Toy Land	A	,,	P. Kelly	Redesdale
623	Trelawney's Pride	A	Draught	P. D. Cattanach	Ouyen
733	True Blue	A	,,	W. J. Wilson	Drik Drik
653	True Scotch	6	,,	F. Sutton	Gredgwin

STALLION REGISTER 1930-31—*continued.*

Cert. No.	Name.	Age—Years.	Class.	Owner.	Address.
603	Tuxedo Rock	A	Light	W. J. Hueston	Hawthorn
714	Udale Jack	A	Draught	A. J. Pyers	Donald
591	Valetta Scotch Dale	3	„	F. H. Baker	Jung
526	Vice Royal	A	„	C. S. Walker	Swan Hill
544	Victorian Baron Midge	3	„	R. J. Jones	Maryborough
517	Victoria Solid Stamp	3	„	W. J. Eades	Colac
711	Vin Direct	A	Light	J. D. Mulfahey	Windsor
698	Wee Charlie	A	Pony	P. H. Loch	Werribee
605	Western Lad	A	Draught	J. and C. Ross	Lake Bolac
732	Widgiewa Fashion	A	„	W. L. Oliver	Diggora West
574	Widgiewa Ormond	5	„	H. J. Berryman	Wamboota, N.S.W.
671	Widgiewa Sapper	A	„	G. C. Allen	Broughton
596	Willie Craig	A	„	A. T. Leishman	Kingston
643	Worthy Footprint	6	„	W. G. Ballantine	Cosgrove
555	Wirawingeth Craig	3	„	A. T. Leishman	Kingston
604	Wunnamurra Flash Baron	3	„	A. Gillis	Newmarket
516	Wunnamurra Imprint	4	„	T. Parker	Pepper Plains
615	Wunnamurra Silverstroke	5	„	J. Wills	Cowangie
701	Xantho	A	Thoroughbred	J. C. Whitehead	Minhamite
775	Yantara Silverdale	3	Draught	A. Kellett	Melbourne
681	Young Dunsby Victor	A	„	E. A. Walker	Cowangie
639	Young Lad	A	Pony	W. H. Gillett	Lara
682	Young McLeish	A	Draught	J. Charlton	Stony Creek
507	Zone Time	A	„	J. Gibson	Benambra

"Hard Seeds" in Subterranean Clover

(*Continued from page* 288.)

threshing and cleaning may have on the numbers of hard seeds in a sample. Some burr was obtained from a field that was being harvested for seed. The seed was carefully removed by hand from this burr, and tested for germination alongside the seed obtained by threshing and cleaning. It gave a germination of only 43 per cent., as compared with 76 per cent. in the machine threshed seed, a difference of 33 per cent. The photographs herewith illustrate this test, and show the substantial difference in the germination of two samples.

The machines used to thresh and clean the seed in this case contained all metal parts, which apparently scratched or wore the seed coats thin by friction to such an extent that a large proportion of the hard seeds were able to absorb water, and germinate. The fact that the parts of the machines coming in contact with burr and seed in the case quoted above were all metal appears to be important. There is some evidence that where softer materials are used, such as wood or other substances, this effect on hard seeds is not nearly so pronounced.

Books Received

AUSTRALIAN HANDBOOK OF DAIRY FARMING, by R. S. Maynard, Editor of the *Live Stock Bulletin* (Angus and Robertson, Melbourne, 45s.), is perhaps as comprehensive and complete a work on dairy farming as has ever been published, and has the advantage for Australia that, while containing equally all that part of dairy-knowledge which is applicable the world over, it takes cognizance also of all the distinctions and modifications that Australian conditions entail. Its teachings on dairy practice are in keeping with the experience of the Departmental Dairy Division, and the author would appear to have spared no effort to make himself acquainted with the very latest developments in the industry's ever-growing experience.

THE AUSTRALIAN GARDENER, by Leslie H. Brunning (Robertson and Mullen, Melbourne, 7s. 9d.). This is a guide for the practical householder who grows fruit and vegetables as well as for those whose pride and artistic taste find expression in the growing of flowers.

This is the 22nd edition of Mr. Brunning's book, and therefore, perhaps, one might describe it as a hardy annual, and an annual that improves with each year of blossoming.

Stallion Parades

Time Table, 1931

Provided that the applications for registration received indicate that a horse will be in attendance there for examination, a parade will be held at each of the following places :—

No. and Date.	Parade.	Time.	Officer Arrives.	Officer Departs.
Every Saturday from July 4 to December 19	Agricultural Offices	10 a.m.		
No. 1.				
Monday, July 6 ..	Tungamah Railway Station ..	12.42 p.m. ..	12.42 p.m. ..	8.57 p.m.
Tuesday, July 7 ..	Yarrawonga Shire Office ..	11 a.m. ..	9.30 p.m. (6th)	2.45 p.m.
Tuesday, July 7 ..	Goorambat Railway Station ..	4.20 p.m. ..	4.20 p.m. ..	Driving
Wednesday, July 8 ..	Benalla Railway Station ..	9.30 a.m. ..	Driving ..	11.23 a.m.
Wednesday, July 8 ..	Rutherglen Railway Station ..	1.35 p.m. ..	1.35 p.m. ..	1.35 p.m.
Wednesday, July 8 ..	Wahgunyah Railway Station ..	2.5 p.m. ..	2.5 p.m. ..	7.10 a.m. (9th)
Thursday, July 9 ..	Barnawartha Railway Station ..	2 p.m. ..	1.21 p.m. ..	3.30 p.m.
No. 2.				
Tuesday, July 7 ..	Sea Lake, Royal Hotel	10 a.m. ..	7.15 p.m. (6th)..	10.20 a.m. (8th)
Tuesday, July 7 ..	Nandaly Railway Station ..	12 noon ..	Driving ..	Driving
Tuesday, July 7 ..	Culgoa, Kaneira Hotel	3.30 p.m. ..	Driving ..	Driving
Tuesday, July 7 ..	Nullawil Railway Station ..	4 p.m. ..	Driving ..	Driving
Wednesday, July 8 ..	Wycheproof Railway Station ..	11.50 a.m. ..	11.50 a.m. ..	12.25 p.m.
No. 3.				
Tuesday, July 7 ..	Natimuk Railway Station ..	11.5 a.m. ..	11.5 a.m. ..	11.30 a.m.
Tuesday, July 7 ..	Goroke Railway Station ..	1.15 p.m. ..	1.15 p.m. ..	5.15 p.m.
Tuesday, July 7 ..	Edenhope Sale Yards	3 p.m. ..	Driving ..	Driving
Wednesday, July 8 ..	Horsham, Young Bros.' Sale Yards	9 a.m. ..	8.20 p.m. (7th)..	12.5 p.m.
Wednesday, July 8 ..	Stawell Railway Station ..	2.18 p.m. ..	2.18 p.m. ..	7.30 p.m.
Thursday, July 9 ..	Maroona Railway Station ..	10 a.m. ..	7.50 a.m. ..	2.40 p.m.
Thursday, July 9 ..	Ararat Railway Station ..	3.15 p.m. ..	3.15 p.m. ..	3.25 p.m.
No. 4.				
Monday, July 13 ..	Maryborough Railway Station ..	2 p.m. ..	12.30 p.m. ..	10 p.m.
Monday, July 13 ..	Avoca Railway Station	3 p.m. ..	Driving ..	Driving
Tuesday, July 14 ..	Mildura Railway Station ..	10 a.m. ..	7 a.m. ..	8.30 p.m. (15th)
Tuesday, July 14 ..	Carwarp Railway Station ..	11.30 a.m. ..	Driving ..	Driving
Tuesday, July 14 ..	Werrimull Railway Station ..	3 p.m. ..	Driving ..	Driving
Thursday, July 16 ..	Ouyen Show Grounds	10 a.m. ..	10.40 p.m. (15th)	Driving
Thursday, July 16 ..	Tiega Railway Station	11 a.m. ..	Driving ..	Driving
Thursday, July 16 ..	Galah Railway Station	11.15 a.m. ..	Driving ..	Driving
Thursday, July 16 ..	Walpeup Railway Station ..	11.45 a.m. ..	Driving ..	Driving
Thursday, July 16 ..	Torrita Railway Station ..	12 noon ..	Driving ..	Driving
Thursday, July 16 ..	Underbool Railway Station ..	12.15 p.m. ..	Driving ..	Driving
Thursday, July 16 ..	Linga Railway Station	1.15 p.m. ..	Driving ..	Driving
Thursday, July 16 ..	Boinka Railway Station ..	1.30 p.m. ..	Driving ..	Driving
Thursday, July 16 ..	Tutye Railway Station	2 p.m. ..	Driving ..	Driving
Thursday, July 16 ..	Cowangie Railway Station ..	2.30 p.m. ..	Driving ..	Driving
Thursday, July 16 ..	Danyo Railway Station ..	2.45 p.m. ..	Driving ..	Driving
Thursday, July 16 ..	Murrayville Railway Station ..	3 p.m. ..	Driving ..	Driving
Thursday, July 16 ..	Carina Railway Station	3.30 p.m. ..	Driving ..	Driving
Thursday, July 16 ..	Panitya Railway Station ..	4 p.m. ..	Driving ..	Driving
No. 5.				
Monday, July 13 ..	Kyabram Show Grounds ..	12.30 p.m. ..	11.57 a.m. ..	Driving
Monday, July 13 ..	Tongala Sale Yards	2 p.m. ..	Driving ..	4.42 p.m.
Tuesday, July 14 ..	Tatura Show Grounds	3.30 p.m. ..	5.33 p.m. (13th)	5.33 p.m.
Wednesday, July 15 ..	Euroa Railway Station	10.20 a.m. ..	10.20 a.m. ..	11.1 a.m.
Wednesday, July 15 ..	Seymour Railway Station ..	1.30 p.m. ..	12 noon ..	5.55 p.m.
Thursday, July 16 ..	Wangaratta Show Grounds ..	9 a.m. ..	8.14 p.m. (15th)	Driving
Thursday, July 16 ..	Moyhu	11 a.m. ..	Driving ..	Driving
Thursday, July 16 ..	Myrtleford Railway Station ..	1 p.m. ..	Driving ..	Driving
Thursday, July 16 ..	Beechworth Railway Station ..	2.30 p.m. ..	2.30 p.m. ..	7.55 a.m. (17th)

STALLION PARADES, TIME TABLE—*continued.*

No. and Date.	Parade.	Time.	Officer Arrives.	Officer Departs.
No. 6.				
Monday, July 13	Charlton, Cricket Club Hotel	4.30 p.m.	3.53 p.m.	1.43 p.m. (14th)
Tuesday, July 14	Korong Vale Railway Station	2.45 p.m.	2.45 p.m.	3.20 p.m.
Tuesday, July 14	Boort Railway Station	4.5 p.m.	4.5 p.m.	4.30 p.m.
Wednesday, July 15	Quambatook Hotel	10 a.m.	5.30 p.m. (14th)	Driving
Wednesday, July 15	Gredgwin Railway Station	11 a.m.	Driving	12 noon
Wednesday, July 15	Inglewood Railway Station	4.15 p.m.	4.15 p.m.	1.29 p.m. (16th)
Thursday, July 16	Wedderburn Railway Station	2.35 p.m.	2.35 p.m.	3.10 p.m.
No. 7.				
Monday, July 20	Murchison East Railway Station	10.19 a.m.	10.19 a.m.	10.40 a.m.
Monday, July 20	Rushworth Railway Station	11.43 a.m.	11.43 a.m.	5.20 p.m.
Tuesday, July 21	Shepparton Show Grounds	10 a.m.	8.10 p.m. (20th)	11.40 a.m.
Tuesday, July 21	Dookie Railway Station	12.40 p.m.	12.40 p.m.	Driving
Tuesday, July 21	Katamatite Railway Station	2.5 p.m.	Driving	Driving
Wednesday, July 22	Nagambie Railway Station	9 a.m.	7.10 p.m. (21st)	9.55 a.m.
Wednesday, July 22	Nathalia Railway Station	2 p.m.	1.27 p.m.	3.20 p.m.
Thursday, July 23	Numurkah, Farmers' Arms Hotel	10 a.m.	4.13 p.m. (22nd)	12.19 p.m.
Thursday, July 23	Strathmerton Railway Station	12.42 p.m.	12.42 p.m.	12.55 p.m.
Thursday, July 23	Cobram Railway Station	1.35 p.m.	1.35 p.m.	Driving
No. 8.				
Wednesday, July 22	Donald Railway Station	10 a.m.	4.40 p.m. (21st)	1.55 p.m.
Wednesday, July 22	St. Arnaud Show Grounds	3.30 p.m.	3.15 p.m.	11.40 p.m.
Thursday, July 23	Birchip, Shamrock Hotel	10 a.m.	1.23 a.m.	1.30 a.m. (24th)
Thursday, July 23	Watchem Hotel	2 p.m.	Driving	Driving
No. 9.				
Tuesday, July 21	Hamilton Railway Station	4.25 p.m.	4.25 p.m.	4.50 p.m.
Wednesday, July 22	Coleraine, Coleraine Hotel	10 a.m.	6.5 p.m. (21st)	Driving
Wednesday, July 22	Casterton, Albion Hotel	4 p.m.	Driving	8.50 a.m. (23rd)
Thursday, July 23	Branxholme Railway Station	10.40 a.m.	10.40 a.m.	10.58 a.m.
Thursday, July 23	Heywood Railway Station	12.15 p.m.	12.15 p.m.	Driving
Thursday, July 23	Portland Post Office	1.15 p.m.	Driving	9 a.m. (24th)
No. 10.				
Tuesday, July 21	Koondrook Hotel	10 a.m.	5.25 p.m. (20th)	11.30 a.m.
Tuesday, July 21	Kerang, Kerang Hotel	12.45 p.m.	12.45 p.m.	3.55 p.m.
Wednesday, July 22	Piangil Railway Station	9.30 a.m.	Driving	Driving
Wednesday, July 22	Bannerton Railway Station	1.30 p.m.	Driving	Driving
Wednesday, July 22	Margooya Railway Station	1.45 p.m.	Driving	Driving
Wednesday, July 22	Annuello Railway Station	2 p.m.	Driving	Driving
Wednesday, July 22	Koimbo Railway Station	2.15 p.m.	Driving	Driving
Wednesday, July 22	Bolton Railway Station	2.30 p.m.	Driving	Driving
Wednesday, July 22	Manangatang Railway Station	4 p.m.	Driving	Driving
Thursday, July 23	Cocamba Railway Station	10 a.m.	Driving	Driving
Thursday, July 23	Chinkapook Railway Station	10.15 a.m.	Driving	Driving
Thursday, July 23	Chillingollah Railway Station	10.30 a.m.	Driving	Driving
Thursday, July 23	Waitchie Railway Station	11 a.m.	Driving	Driving
Thursday, July 23	Gowanford Railway Station	11.15 a.m.	Driving	Driving
Thursday, July 23	Ultima Railway Station	1 p.m.	Driving	Driving
Friday, July 24	Swan Hill Show Grounds	10 a.m.	Driving	11.40 a.m.
No. 11.				
Monday, July 27	Port Fairy, Star of the West Hotel	3 p.m.	2.45 p.m.	Driving
Tuesday, July 28	Koroit, Koroit Inn Hotel	11 a.m.	Driving	Driving
Tuesday, July 28	Hawkesdale Hotel	1.30 p.m.	Driving	Driving
Tuesday, July 28	Penshurst Police Station	3 p.m.	Driving	Driving
Wednesday, July 29	Warrnambool Railway Station	10 a.m.	Driving	Driving
Wednesday, July 29	Terang, Macdonald's Yard	2.30 p.m.	Driving	Driving
Wednesday, July 29	Mortlake, Mt. Shadwell Hotel	3.30 p.m.	Driving	Driving
Thursday, July 30	Camperdown, Dalgety's Yards	10 a.m.	5.40 p.m. (29th)	Driving
Thursday, July 30	Timboon Railway Station	1.45 p.m.	Driving	Driving
Thursday, July 30	Cobden Railway Station	4.5 p.m.	Driving	Driving

STALLION PARADES, TIME TABLE—*continued.*

No. and Date.	Parade.	Time.	Officer Arrives.	Officer Departs.
No. 12.				
Tuesday, July 28 ..	Yaapeet Railway Station ..	8 a.m. ..	Driving ..	Driving
Tuesday, July 28 ..	Rainbow, Commonwealth Hotel ..	9 a.m. ..	8.50 p.m. (27th)	10 a.m.
Tuesday, July 28 ..	Dimboola, Wall's Hotel ..	3 p.m. ..	1.30 p.m. ..	12.13 a.m. (29th)
Wednesday, July 29 ..	Kaniva, Commercial Hotel ..	10 a.m. ..	1.55 a.m. ..	12 noon
No. 13.				
Tuesday, July 28 ..	Echuca Railway Station ..	2.5 p.m. ..	2.5 p.m. ..	3.45 p.m.
Tuesday, July 28 ..	Rochester Fire Station	4.30 p.m. ..	4.25 p.m. ..	10.9 a.m. (29th)
Wednesday, July 29 ..	Elmore Railway Station ..	10.30 a.m. ..	10.30 a.m. ..	1.15 p.m.
Wednesday, July 29 ..	Cohuna Show Grounds	4 p.m. ..	3.50 p.m. ..	11 a.m. (30th)
No. 14.				
Monday, July, 27 ..	Alexandra Police Station ..	2 p.m. ..	12.30 p.m. ..	4.35 p.m.
Tuesday, July 28 ..	Yea Railway Station	9 a.m. ..	6.25 p.m. (27th)	10.25 a.m.
Tuesday, July 28 ..	Mansfield, Delatite Hotel ..	2.30 p.m. ..	1.40 p.m. ..	3.30 p.m.
Wednesday, July 29 ..	Wodonga Railway Station ..	1.40 p.m. ..	1.40 p.m. ..	2.10 p.m.
Wednesday, July 29 ..	Tallangatta Railway Station ..	3.48 p.m. ..	3.48 p.m. ..	Driving
Thursday, July 30 ..	Corryong, Court House Hotel ..	10 a.m. ..	Driving ..	Driving
No. 15.				
Tuesday, August 4 ..	Lorquon Railway Station ..	11.45 a.m. ..	11.45 a.m. ..	11.45 a.m.
Tuesday, August 4 ..	Yanac Railway Station	1.30 p.m. ..	1.30 p.m. ..	3 p.m.
Thursday, August 6 ..	Warracknabeal Show Grounds ..	10 a.m. ..	5.20 p.m. (5th) ..	1.35 p.m.
No. 16.				
Monday, August 3 ..	Murtoa Railway Station ..	3.40 p.m. ..	3.40 p.m. ..	5 p.m.
Tuesday, August 4 ..	Marnoo Railway Station ..	11 a.m. ..	Driving ..	Driving
Tuesday, August 4 ..	Rupanyup Railway Station ..	1 p.m. ..	Driving ..	Driving
Wednesday, August 5 ..	Hopetoun, Club Hotel	10 a.m. ..	8.5 p.m. (4th) ..	Driving
Wednesday, August 5 ..	Patchewollock Railway Station ..	12 noon ..	Driving ..	Driving
Wednesday, August 5 ..	Speed Railway Station	2 p.m. ..	Driving ..	Driving
Wednesday, August 5 ..	Woomelang, Commercial Hotel ..	4 p.m. ..	Driving ..	Driving
Thursday, August 6 ..	Beulah, Show Grounds	10 a.m. ..	Driving ..	11.40 a.m.
Thursday, August 6 ..	Minyip, Club Hotel	2.45 p.m. ..	2.45 p.m. ..	12.16 p.m. (7th)
No. 17.				
Tuesday, August 4 ..	Geelong, J. J. Burns' Horse Bazaar	2 p.m. ..	12.5 p.m. ..	Driving
Tuesday, August 4 ..	Bannockburn Railway Station ..	3 p.m. ..	Driving ..	Driving
Tuesday, August 4 ..	Inverleigh Railway Station ..	4 p.m. ..	Driving ..	Driving
Wednesday, August 5 ..	Cressy Railway Station	10.44 a.m. ..	10.44 a.m. ..	10.56 a.m.
Wednesday, August 5 ..	Vite Vite Railway Station ..	12.22 p.m. ..	12.22 p.m. ..	4.37 p.m.
Wednesday, August 5 ..	Lismore Railway Station ..	5.14 p.m. ..	5.14 p.m. ..	Driving
No. 18.				
Tuesday, August 4 ..	Frankston Railway Station ..	12.51 p.m. ..	12.51 p.m. ..	2.20 p.m.
Wednesday, August 5 ..	Sunbury Show Grounds ..	11 a.m. ..	8.42 a.m. ..	2.50 p.m.
Thursday, August 6 ..	Kilmore, Royal Oak Hotel ..	9 a.m. ..	8.43 a.m. ..	Driving
No. 19.				
Tuesday, August 11 ..	Jeparit Show Grounds	10 a.m. ..	10 a.m. ..	6 p.m.
Thursday, August 13 ..	Nhill Show Grounds	10 a.m. ..	12.53 a.m. ..	12.53 a.m. (14th)
No. 20.				
Monday, August 10 ..	Colac, Butter Factory	10.15 a.m. ..	10.15 a.m. ..	11 a.m.
Monday, August 10 ..	Beech Forest Railway Station ..	2.20 p.m. ..	2.20 p.m. ..	1.45 p.m. (11th)
Wednesday, August 12	Winchelsea Railway Station ..	10 a.m. ..	7.50 p.m. (11th)	11.16 a.m.
Wednesday, August 12	Werribee Railway Station ..	1.5 p.m. ..	1.5 p.m. ..	2.18 p.m.
Wednesday, August 12	Lara Railway Station	2.48 p.m. ..	2.48 p.m. ..	4.37 p.m.

STALLION PARADES, TIME TABLE—*continued.*

No. and Date.	Parade.	Time.	Officer Arrives.	Officer Departs.
No. 21.				
Tuesday, August 11	Mitiamo Railway Station	1.38 p.m.	1.38 p.m.	1.54 p.m.
Tuesday, August 11	Pyramid Railway Station	2.20 p.m.	2.20 p.m.	3.22 p.m.
Wednesday, August 12	Raywood Railway Station	11 a.m.	5.3 p.m. (11th)	12.50 p.m.
Wednesday, August 12	Tandarra Railway Station	1.5 p.m.	1.4 p.m.	4.42 p.m.
Thursday, August 13	Bendigo Show Grounds	10 a.m.	6.10 p.m. (12th)	11.55 a.m.
Thursday, August 13	Castlemaine Railway Station	12.42 p.m.	12.42 p.m.	Driving
Friday, August 14	Shelbourne Railway Station	10 a.m.	Driving	Driving
Friday, August 14	Eddington Hotel	11 a.m.	Driving	Driving
Friday, August 14	Baringhup	12 noon	Driving	Driving
Friday, August 14	Maldon Railway Station	1.30 p.m.	Driving	Driving
Friday, August 14	Newstead	3 p.m.	Driving	Driving
No. 22.				
Monday, August 10	Traralgon Railway Station	11.55 a.m.	11.55 a.m.	12.10 p.m.
Monday, August 10	Maffra Railway Station	1.30 p.m.	1.30 p.m.	4 p.m.
Tuesday, August 11	Warragul Show Grounds	9.30 a.m.	7.8 p.m. (10th)	10.40 a.m.
Tuesday, August 11	Sale Railway Station	1.30 p.m.	1.10 p.m.	Driving
Tuesday, August 11	Kilmany Railway Station	4 p.m.	Driving	4.41 p.m.
Wednesday, August 12	Bunyip Railway Station	10 a.m.	7.53 p.m. (11th)	11.13 a.m.
Wednesday, August 12	Dandenong Railway Station	12.30 p.m.	12.24 p.m.	1 p.m.
No. 23.				
Monday, August 17	Wallace Railway Station	10.27 a.m.	10.27 a.m.	11.21 a.m.
Monday, August 17	Ballan Railway Station	11.49 a.m.	11.49 a.m.	Driving
Monday, August 17	Bacchus Marsh, Border Inn Hotel	2 p.m.	Driving	Driving
Monday, August 17	Melton Railway Station	4 p.m.	Driving	8.4 p.m.
Tuesday, August 18	Mernda Railway Station	10.21 a.m.	10.21 a.m.	11.2 a.m.
Wednesday, August 19	Romsey Railway Station	10.30 a.m.	10.30 a.m.	1.15 p.m.
Thursday, August 20	Lilydale Railway Station	2 p.m.	1.59 p.m.	4.56 p.m.
No. 24.				
Monday, August 17	Daylesford, Raglan Hotel	12 noon	11.5 a.m.	2 p.m.
Tuesday, August 18	Waubra	10 a.m.	Driving	Driving
Tuesday, August 18	Trawalla	11 a.m.	Driving	Driving
Tuesday, August 18	Linton	2 p.m.	Driving	Driving
Tuesday, August 18	Skipton	3 p.m.	Driving	Driving
Wednesday, August 19	Clunes, Post Office	11 a.m.	8.9 a.m.	1.35 p.m.
Wednesday, August 19	Creswick, Post Office	2.30 p.m.	2.8 p.m.	Driving
Wednesday, August 19	Kingston Hotel	3.30 p.m.	Driving	Driving
Thursday, August 20	Ballarat, Haymarket	11.30 a.m.	11 a.m.	2.53 p.m.
Friday, August 21	Kyneton Show Grounds	10 a.m.	9.54 a.m.	Driving
Friday, August 21	Redesdale Hotel	12 noon	Driving	Driving
No. 25.				
Monday, August 17	Wonthaggi Railway Station	10.40 a.m.	10.40 a.m.	Driving
Monday, August 17	Anderson Railway Station	3 p.m.	Driving	Driving
Tuesday, August 18	Korumburra Railway Station	10 a.m.	8.7 p.m. (17th)	11.1 a.m.
Tuesday, August 18	Foster Railway Station	12.50 p.m.	12.50 p.m.	1.10 p.m.
Tuesday, August 18	Yarram, Sale Yards	3 p.m.	2.35 p.m.	7 a.m. (19th)
Wednesday, August 19	Stony Creek Railway Station	9 a.m.	8.59 a.m.	Driving
Wednesday, August 19	Leongatha Railway Station	10 a.m.	Driving	9.35 a.m. (20th)
Thursday, August 20	Cranbourne Railway Station	10.44 a.m.	10.44 a.m.	7.11 p.m.
No. 26.				
Tuesday, August 18	Orbost, Club Hotel	9 a.m.	7 p.m. (17th)	10.10 a.m.
Tuesday, August 18	Bairnsdale, Sale Yards	2.30 p.m.	1.45 p.m.	Driving
Wednesday, August 19	Ensay South	11 a.m.	11 a.m.	11.10 a.m.
Wednesday, August 19	Omeo, Golden Age Hotel	3 p.m.	3 p.m.	6.25 a.m. (20th)
No. 27.				
Wednesday, Sept. 16	Royal Show	10 a.m.		
Thursday, Sept. 17	Royal Show	9 a.m.		

Standard Herd Records

For Quarter ended 31st March, 1931

In the following is set out the records of all cows which completed a lactation during the quarter. The number is 417, of which 301 qualify for the certificate.

The amount of butter fat required for qualification varies according to the age of the animal (up to 5 years at time of calving), the standards being as follow :—

Junior 2 year old (under 2½ years at time of calving)	200 lb. butter fat.
Senior 2 year old (between 2½ and 3 years at time of calving)	225 lb. butter fat.
Junior 3 year old (between 3 and 3½ years at time of calving)	250 lb. butter fat.
Senior 3 year old (between 3½ and 4 years at time of calving)	275 lb. butter fat.
Junior 4 year old (between 4 and 4½ years at time of calving)	300 lb. butter fat.
Senior 4 year old (between 4½ and 5 years at time of calving)	325 lb. butter fat.
Mature cow 5 years and over	350 lb. butter fat.

(Except where otherwise stated, the period of Test was 273 days.)

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
N. B. Alston, Romsey (Jersey)	2	2	Rosyth Lady Jessie ..	26377	30.3.30	18	5,994	5·48	328·41	275	Sr. 3	276
			Jessie's Dream of Esperanza	17388	10.5.30	22½	7,244	5·17	374·72	350	Mature	387
Archibald and Sons, Sale (Jersey)	2	1	"Glenallan" Tulip's Countess	22929	16.4.30	13	7,085	4·73	334·91	325	Sr. 4	
			"Glenallan" Beatrice 2nd	18606	27.4.30	13	4,793	5·09	243·85	350	Mature	
L. R. Archibald, Tongala East (Jersey)	2	1	Mayfield Park Daisy 3rd	25724	22.4.30	17½	6,173	4·92	303·53	200	Jr. 2	
			Lady Monica 2nd of Mayfield Park	21093	6.5.30	11½	5,570	5·44	303·12	325	Sr. 4	258, 293
W. H. Atherton, Murraydale (Jersey)	4	4	Marmione	21094	31·3·30	10½	7,509	5·27	395·71	350	Mature	407, 318, 285
			Rarity of Beverley ..	21096	16.4.30	15½	7,232	5·32	385·09	300	Jr. 4	312
			Tiny 3rd of Beverley ..	21097	22.5.30	19½	8,874	5·26	467·11	325	Sr. 4	282, 434, 262
			Beverley Carnation ..	25729	25.5.30	15	5,013	6·45	323·43	225	Sr. 2	335
W. K. Atkinson, Swan Hill (M. Shorthorn)	2	1	Willow Park Fairy 3rd	Vol. 1	25.4.30	21	7,590	3·84	291·15	250	Jr. 3	246
			Willow Park Melba ..	Vol. 1	6.5.30	20	7,579	3·76	284·60	300	Jr. 4	285
Ballarat Orphanage, Ballarat (Jersey)	2	2	Molly of Tavistock ..	16240	25.4.30	19½	6,965	5·39	375·30	350	Mature	383
			Garden Vale Venture ..	22965	4.5.30	20½	7,052	5·09	358·68	325	Sr. 4	
Barber Bros., Somerville (Jersey)	1	1	Somerville Northern Maid	25960	11.6.30	21½	6,830	5·57	380·11	225	Sr. 2	
C. Bassett Smith, Kyabram (Red Poll)	1	1	Victoria Plume ..	2331A	26.4.30	23	6,909	4·27	295·31	200	Jr. 2	
G. H. Belfield, "Wootong Vale," Coleraine (Jersey)	2	2	Dalray Larkspur Surprise	23250	23.4.30	20	7,553	6·03	455·69	250	Jr. 3	354
			Wootong Vale Golden Rose	25757	9.6.30	13	10,038	4·47	448·27	275	Sr. 3	340, 355

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
F. Bidgood, Staghorn Flat (Jersey)	1	1	Staghorn Fox's Clementine 5th	Vol. 17	15.5.30	17	5,739	5·49	315·09	200	Jr. 2	
Mrs. A. J. Black, Noorat (Jersey)	3	3	Noorat Gwyneth ..	22988	2.4.30	13	5,484	5·55	304·24	300	Jr. 4	269, 256
			Melody 2nd of Warenda	15017	26.4.30	17	7,557	6·04	456·34	350	Mature	420, 265, 445, 526
			Noorat Sunflower ..	21135	28.4.30	13	7,621	4·64	353·30	350	Mature	292, 220, 337
I. S. Black, Noorat (Home) (Ayrshire)	3	1	Janice of Sunnyside ..	12975	3.4.30	17	9,291	4·39	407·78	350	Mature	339
			Purity of Ben Kell ..	15737	16.4.30	11½	6,141	3·94	241·79	275	Sr. 3	262
			Mt. Noorat Hypol ..	C.R.	24.4.30	13½	5,565	3·93	218·83	225	Sr. 2	
S. Bolton, Mannerim (Jersey)	2	2	Glen Mavis Nancy ..	25284	1.5.30	22½	7,244	4·91	355·65	200	Jr. 2	
			Castlemaddie Cornflower 3rd	25282	30.5.30	11½	5,360	5·75	308·12	225	Sr. 2	
A. A. Broad, Sutton Grange (Jersey)	3	3	Bunty 2nd of Coliban..	15485	20.4.30	30½	11,319	4·82	545·99	350	Mature	365, 442, 483, 558, 582
			Grangelea Buttercup ..	26388	28.5.30	17½	6,939	5·64	391·02	250	Jr. 3	301
			Grangelea Daisy 4th ..	24274	30.5.30	15½	5,589	5·65	315·70	300	Jr. 4	
Cameron and Sons, Valencia Creek (Jersey)	2	2	Studleigh Harebell 2nd	25292	28.4.30	23½	7,130	5·75	409·96	225	Sr. 2	315
			Terangaville Starbright Butter Queen	26395	31.5.30	25	7,103	4·93	350·38	225	Sr. 2	302
J. Canobio, Bena .. (Ayrshire)	4	1	Frill of Glen Erin ..	13292	18.4.30*	20	5,670	4·36	247·10	350	Mature	234
			Glen Erin Winsome ..	16199	2.5.30	18	6,901	3·76	259·14	275	Sr. 3	220
			Glen Erin Freckle ..	16196	8.5.30	17½	6,380	4·12	262·85	275	Sr. 3	254
			Glen Erin Sunbeam ..	16198	21.6.30	18½	7,544	3·83	289·15	275	Sr. 3	
W. C. Cayley, Werribee (Ayrshire)	4	2	Priscilla of Glengowrie	11036	10.4.30	21½	7,280	4·08	296·91	350	Mature	306, 331, 389
			Riversdale Peggy ..	16571	11.4.30	23½	9,376	3·79	355·32	300	Jr. 4	267
			Sparrowvale Trefoil ..	16706	1.5.30	26	9,842	3·95	388·88	350	Mature	288, 335, 400
			Riversdale Frivolity ..	16569	13.5.30	15	7,344	3·94	289·66	300	Jr. 4	319, 295
J. E. Chadderton, Bochara, Hamilton (Jersey)	1	..	Duchess III. of Glen Leigh	21176	28.5.30	16½	6,606	4·58	302·54	325	Sr. 4	233, 302
E. L. Chester, Mt. Scobie (Jersey)	1	1	Balara Lady ..	23022	17.5.30	19	6,358	5·54	352·05	250	Jr. 3	
Captain Chirnside, Oakleigh (Jersey)	4	4	Brucevale Northwood Madeira 3rd	Vol. 17	11.4.30	18	5,184	6·08	315·14	200	Jr. 2	
			Brucevale Lady Merribee Wyndotte	Vol. 17	24.4.30	14	4,391	6·56	287·92	200	Jr. 2	
			Brucevale Fancy Starbright	Vol. 17	24.4.30	19	5,885	6·49	382·03	200	Jr. 2	
			Brucevale Molly Merribee Madeira	Vol. 17	28.4.30	17	5,444	7·21	392·55	200	Jr. 2	
W. J. Clark, Monomeith (Jersey)	2	2	Glenavon Lassie ..	Vol. 17	17.5.30	15	5,025	5·39	270·63	200	Jr. 2	
			May Song of Warenda	2156	15.6.30	24½	8,969	5·59	501·11	350	Mature	402, 533
R. C. and A. C. Clymo, Bamawm (Ayrshire)	1	..	Nindethana Bertha ..	21944	13·4·30	16	4,112	3·85	158·32	200	Jr. 2	

* 240 days in Test; withdrawn on account of mastitis.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
							lb.	lb.		lb.		
J. Clyne, Upper Maffra West (Jersey)	10	10	Paisley Sweet Petal ..	Vol. 17	27.4.30	16	5,037	5·41	272·28	200	Jr. 2	
			Paisley Flower ..	C.R.	27.4.30	14½	4,613	6·17	284·81	200	Jr. 2	
			Jersey Vale Lupin ..	25316	1.5.30	19	6,492	5·81	377·17	250	Jr. 3	301
			Forty Winks of Paisley	17721	3.5.30	18	7,126	5·65	402·70	350	Mature	317, 344
			Paisley Poppy ..	25328	8.5.30	21	6,522	6·03	393·38	250	Jr. 3	335
			Jersey Vale Marigold ..	25317	13.5.30	23½	7,403	5·47	404·67	275	Sr. 3	276
			Jersey Vale Honeysuckle	25313	30.5.30	17½	6,527	5·07	330·83	275	Sr. 3	297
			Jersey Vale Cowslip ..	25311	15.6.30	23	8,126	4·72	383·33	250	Jr. 3	332
			Jersey Vale Norma ..	25319	19.6.30	13	4,164	5·59	232·96	225	Sr. 2	262
			Paisley Mistletoe ..	25325	22.6.30	14	7,449	4·77	355·09	250	Jr. 3	331
W. and J. Cockbill, Tongala (Ayrshire)	1	..	Fulham Connie ..	14639	10.5.30	15	7,382	3·94	291·00	325	Sr. 4	230, 265
L. W. Colenso, Alvie (Jersey)	8	7	Nancy 4th of Somerset	17401	17.4.30	13½	5,520	5·51	304·41	350	Mature	
			Ilma of Hazelbrook ..	18668	18.4.30	26	9,281	4·94	458·13	350	Mature	444
			Hawthorn of Belmont	18666	23.4.30	19½	7,964	5·82	463·62	350	Mature	435
			Normandie Mayflower 2nd	Vol. 18	12.5.30	14	4,795	5·79	277·48	200	Jr. 2	
			Normandie Hawthorn	Vol. 18	17.5.30	17½	5,794	5·53	320·46	200	Jr. 2	
			Normandie Thelma ..	24304	2.6.30	13	6,128	5·42	332·37	275	Sr. 3	275, 356
			Glenfield Primrose ..	Vol. 18	10.6.30	13	4,854	5·53	268·33	200	Jr. 2	
			Hawthorn 2nd of Belmont	18667	23.6.30	18	7,445	5·38	400·79	350	Mature	310
D. E. Cook, Wattle Vale, Loch (Jersey)	4	2	Pride of Wattle Vale ..	9272	28.4.30	35	9,262	4·69	434·67	350	Mature	419, 448, 358, 330
			Wattle Vale Wanda ..	26312	4.5.30	15	5,408	6·14	332·29	225	Sr. 2	257
			Wattle Vale Prides Coquette	24308	10.5.30	11	3,254	5·31	172·72	275	Sr. 3	310
			Cootamundra of Wattle Vale	16629	14.5.30	17½	6,140	5·66	347·66	350	Mature	271, 348, 368, 394
T. A. P. Coombes, Tongala (Jersey)	1	..	Ivinghoe Buttercup ..	Vol. 17	24.6.30*	4	3,218	5·54	178·41	225	Sr. 2	208
C. Coughlin, Catani.. (Jersey)	2	1	Goldmine of Somerset	13691	5.4.30	18	5,790	5·03	291·24	350	Mature	156
			Kyora Needles Primrose	Vol. 17	1.5.30	15	3,572	6·74	240·67	200	Jr. 2	
H. Cowling, Mornington (Jersey)	1	1	Edmonton Rarity 2nd	23048	17.5.30	16½	5,173	5·99	309·97	300	Jr. 4	353, 307
A. Cox, Mt. Scobie .. (Jersey)	4	4	Tavistock Mermaid ..	23058	16.4.30	23½	7,517	5·12	384·78	300	Jr. 4	
			Tavistock Honesty's Queen	23056	28.4.30	22½	7,256	5·61	407·17	275	Sr. 3	
			Tavistock Clarionettes Mystery	23054	30.4.30	18	6,144	5·41	332·50	300	Jr. 4	
			Clarionette of Tavistock	18457	1.5.30	26	8,046	6.25	502·62	350	Mature	396
E. E. Davis, Bass .. (Jersey	1	1	Bonnie Brae Mountain Princess 2nd	25342	21.6.30	17	6,680	5·37	358·76	325	Sr. 4	387, 305
E. Day, Penshurst .. (Jersey)	2	1	Betty of Lone Gum ..	6834	6.4.30	25	9,248	5·42	501·21	350	Mature	409, 525, 537, 384
			Midnight of Clover Flat	7445	19.4.30	20½	7,080	4·70	332·46	350	Mature	446, 492, 468, 436
J. Dee, Clyde North (Jersey)	1	1	Clydevale Bright Star..	24328	22.6.30	18½	7,035	6·04	424·61	250	Jr. 3	275
T. G. Dellar, Portland (Jersey)	1	1	Lone Pine Jenny Lind	25837	24.6.30	12	5,286	5·79	306·09	225	Sr. 2	

* 240 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
N. C. De La Rue, Weering (Jersey)	3	3	Lucerne Vale Trixie 2nd	23087	2.5.30	28	8,120	6·11	496·22	275	Sr. 3	365, 418
			Lucerne Vale Battles Trixie 2nd	25346	30.5.30	11½	4,617	6·62	305·56	200	Jr. 2	
			Carnation of Colac ..	21239	26.6.30	18½	9,572	5·03	481·10	350	Mature	267, 347, 316, 379, 443
Department of Agriculture, Werribee (Friesian)	2	2	Victoria Bowerbird ..	Acptd.	13.4.30	27	9,122	3.53	321.62	225	Sr. 2	
			Victoria Patchwork ..	1706	15.4.30	13½	10,638	3·55	378·07	350	Mature	304, 273, 528, 528
Department of Agriculture, Werribee (Red Poll)	10	8	Victoria Village Belle ..	1522AA	2.4.30	24½	10,322	3·90	402·16	275	Sr. 3	357
			Victoria La Regal ..	718A	8.4.30	23½	10,014	3·68	368·29	350	Mature	320, 437, 353
			Victoria Purse ..	2332A	8.4.30	19½	7,090	4·62	327·29	225	Sr. 2	
			Victoria Barcarolle ..	2303A	15.4.30	16	5,570	5·10	284·24	225	Sr. 2	
			Victoria Royal Blue ..	2334A	16.4.30	N.O.C.	7,664	4·87	373·25	200	Jr. 2	
			Victoria Majesty ..	2090AA	21.4.30	14½	4,717	4·64	218·69	225	Sr. 2	
			Victoria Bell Royal ..	2305A	25.4.30	17½	7,487	4.32	323·30	200	Jr. 2	
			Victoria Braid ..	1654A	27.4.30	19½	8,780	4·20	368·64	300	Jr. 4	318
			Victoria Rose Regal ..	560AA	17.5.30	16	8,459	3·90	329·51	350	Mature	181, 306, 201, 278, 311
			Victoria Blouse ..	2428B	29.5.30	17½	5,799	5·21	302·21	200	Jr. 2	
J. J. Desmond, Rochester (Jersey)	2	2	Macroom Beauty Lass	Vol. 17	25.4.30	13½	4,134	6·19	256·09	200	Jr. 2	
			Eurungee Graceful Duchess	23268	7.5.30	25	8,008	5·71	457·50	275	Sr. 3	369
de Soyres Bros., Kyabram (Jersey)	2	2	Glencara Fancy ..	Vol. 17	17.5.30	14½	5,216	5·35	278·98	200	Jr. 2	
			Glencara Hope ..	25835	11.6.30	13	5,673	4·61	261·43	200	Jr. 2	
Dickenson Bros., Sebastopol (Friesian)	3	3	Ashby Primrose ..	2345	6.6.30	30	10,998	3·03	333·20	275	Sr. 3	294
			Ashby Queenie 5th ..	2093	12.6.30	29½	12,203	3·51	428·11	325	Sr. 4	368
			Ashby Queen Annette	2346	17.6.30	29½	11,214	3·58	401·97	300	Jr. 4	387
Dookie Agricultural College (Ayrshire)	3	3	Dookie Adella's Maid..	21326	12.4.30	20	7,892	3·97	313·53	250	Jr. 3	295
			Dookie Beeswax ..	21327	12.4.30	25	10,098	3·82	385·28	275	Sr. 3	345
			Dookie Posey ..	22688	20.5.30	28	8,777	4·13	362·39	225	Sr. 2	
D. G. Drummond, Lang Lang (Friesian)	1	1	Burnbank Ashyln 52nds Alcartra	1804	23.4.30	30	11,640	3·39	394·61	350	Mature	
P. J. Ducat, Ardmona (Jersey)	1	1	Duchess 6th of Goulburn	17676	1.4.30	18	5,870	6·43	377·67	350	Mature	251, 374
Dunbar Bros., Carlsruhe (Friesian)	2	..	Wimmera Wildflower	2965	5.4.30	12½	5,063	3·11	157·55	250	Jr. 3	190
			Wimmera Winsome ..	2332	15.6.30	18½	8,327	3·19	265·34	350	Mature	294
S. N. Earle, Merricks (Jersey)	1	..	Beauty 6th of Somerville	11484	27.5.30	11	6,614	4·36	288·08	350	Mature	265, 358, 310
H. C. Elburn, Newlyn (Ayrshire)	3	..	Bullecourt Boronia ..	19574	17.4.30	12½	5,412	4·17	225·62	325	Sr. 4	
			Bullecourt Verbena ..	19581	21.4.30	16	6,637	4·23	281·03	325	Sr. 4	
			Bullecourt Narcissis ..	19579	20.5.30	10	3,876	4·10	158·83	200	Jr. 2	
A. J. Eldridge, Noorat (Friesian)	2	2	Spring Vale Cordyline Inka	3218	16.4.30	35	10,380	3·69	383·40	200	Jr. 2	
			St. Alban's Queen's Beauty	2298	23.5.30	22½	10,383	3·70	383·98	350	Mature	336, 382

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
Elliott and Farr, Wimba (Jersey)	2	1	Banyule Silvermine 44th	24464	12.5.30	12	4,764	5·43	258·49	250	Jr. 3	296
			Silvermine 30th of Banyule	14196	3.6.30	13½	7,074	4·88	345·03	350	Mature	310, 315, 334
A. E. Ellis, Archie's Creek (Jersey)	2	1	Glen Iris Mistress Mary	Vol. 18	6.4.30	13	5,627	6·03	339·30	250	Jr. 3	356
			Pearl of Blackwood Grove	21264	17.4.30	13	5,924	5·37	318·01	350	Mature	296, 362, 377
A. E. Enders, Stanhope (Friesian)	2	2	Burnbank Bainfield Patch	1514	5.4.30	37	17,313	3·46	599·83	350	Mature	390, 607, 608, 348
			Eurobin Sylvia Girl ..	Vol. 11	17.4.30	19	12,207	3·30	403·14	225	Sr. 2	330
N. H. Enders, Stanhope (Jersey)	1	1	Peggy of Belgonia ..	17709	10.4.30	36½	10,205	5·00	510·39	350	Mature	420, 525, 570
Fairchild and Clutterbuck, Tinamba (Jersey)	3	3	Vaucluse Flower ..	Vol. 17	30.4.30	16	5,300	5·77	305·67	200	Jr. 2	
			Enterprize Tilly ..	23131	7.6.30	20½	9,543	4·92	469·72	300	Jr. 4	301, 434
			Xavier Kirsty ..	Vol. 17	7.6.30	13	6,597	5·92	390·85	250	Jr. 3	286
Foster Bros., Boisdale (Jersey)	4	3	Lady Marge 9th Jerseyholm	21329	19.4.30	16½	5,859	5·45	319·35	300	Jr. 4	181, 305
			Countess 3rd of Springhurst	16965	22.4.30	14½	7,538	5·26	396·32	350	Mature	405, 403, 369, 345
			Tulip 3rd of Springhurst	16973	24.4.30	22½	8,604	4·76	409·79	350	Mature	328, 393, 471, 369
			Linda 72nd of Kingsvale	21089	1.5.30	12	5,741	4·79	274·87	300	Jr. 4	221, 294
Mrs. E. M. Gange, Werribee South (Ayrshire)	5	2	Boronia of Roseleigh ..	12106	11.4.30	15	8,112	3·80	308·39	350	Mature	283, 356, 335, 369
			Roseleigh Brittania ..	18893	26.4.30*	4	5,020	4·02	201·80	225	Sr. 2	
			Roseleigh Duchess ..	18895	26.4.30	15	5,913	4·38	259·15	225	Sr. 2	
			Roseleigh Wisteria ..	16585	8.6.30	28	12,599	3·87	487·51	325	Sr. 4	250
			Oakbank Variety ..	18787	19.6.30*	4	5,550	3·91	216·75	275	Sr. 3	
Mrs. M. S. Gardner, Nilma (Jersey)	1	..	Latrobe Starfinch 2nd	24401	20.7.30*	6½	4,785	5·19	248·49	275	Sr. 3	321
H. W. Gepp, McLeod, (Jersey)	2	2	Maid 3rd of Linden ..	10608	23.5.30	21½	7,645	6·00	459·05	350	Mature	265, 358, 404, 513, 412, 423
			Strathalan Starlight ..	Vol. 17	8.6.30	14½	5,957	5·42	323·09	275	Sr. 3	
Gibson Bros., Trafalgar (Jersey)	4	3	Cream Belle 3rd of Gnarbrook	9446	13.4.30	18	6,629	5·14	341·00	350	Mature	315, 320, 373, 409
			St. Albans Junette ..	26424	26.5.30	22½	7,674	5·04	386·97	350	Mature	474, 409
			Leathorne Spring Daisy	24372	13.6.30	10½	4,890	6·37	311·37	250	Jr. 3	342
			Leathorne Buttercup 4th	24361	21.6.30	12	4,233	6·28	265·65	250	Jr. 3	231
A. W. Gorman, Alexandra (Ayrshire)	1	1	Favourite of Cathcart..	12141	13.5.30	19½	9,358	4·70	439·50	350	Mature	254, 270, 290, 399
B. Hall, Tongala East (Jersey)	5	1	The Valley Poppy ..	23174	17.4.30	17	3,663	5·96	218·26	325	Sr. 4	211, 232
			Queenie of Comely Banks	15497	28.4.30	9½	5,274	4·45	234·68	350	Mature	254, 301, 345, 234, 229
			Melwood Violet's Rose	Vol. 17	13.6.30	9½	3,467	5·65	195·91	200	Jr. 2	
			Melwood Corella ..	23173	13.6.30	7	4,262	4·58	195·14	325	Sr. 4	145, 173
			Violet of Melwood ..	21308	23.6.30	8	6,901	5·08	350·63	350	Mature	247, 265, 342

* 240 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
J. E. Handbury and Sons, Toora (Jersey)	8	8	Tooravale Lassie Fowler 3rd	Vol. 17	12.4.30	7	4,146	6.05	250·79	200	Jr. 2	
			Tooravale Maid's Princess	23188	13.4.30	16	5,967	5·90	352·28	275	Sr. 3	242, 320
			Tooravale Star ..	25908	7.5.30	10	4,583	6·51	298·58	250	Jr. 3	261
			Lassie Fowler of Tooravale	18728	10.5.30	20	6,309	5·75	362·84	350	Mature	313, 379, 407
			Tooravale Princess 3rd	Vol. 17	27.5.30	11	3,948	5·36	211·50	200	Jr. 2	
			Tooravale Starleigh 2nd	23193	28.5.30	14½	8,040	6·03	484·92	325	Sr. 4	303, 405 427
			Tooravale Lassie Fowler 2nd	23187	4.6.30	16½	7,047	6·07	427·90	325	Sr. 4	293, 366
			Tooravale Clover 2nd..	Vol. 17	20.6.30	8½	5,730	5·89	337·44	225	Sr. 2	
D. Harker, Caldermeade (Ayrshire)	1	1	Petals of Rankeillor ..	9218	6.5.30	18	7,269	5.04	366·31	350	Mature	329, 403, 335
W. T. Harker, Caldermeade (Ayrshire)	1	1	Wayside Clover ..	20816	20.6.30	13	6,843	4·42	302·39	200	Jr. 2	
C. W. Harris, Merino (Jersey)	7	2	Goulburn Duchess 7th	21318	15.4.30	8	4,962	5·16	256·00	325	Sr. 4	247, 277, 257
			Goulburn Duchess 8th	23197	18.4.30	17	6,930	5·49	380·68	250	Jr. 3	327, 358
			Murndal Emma ..	24653	4.5.30	14½	5,282	5·14	271·36	275	Sr. 3	
			Glenaire Freesia ..	Vol. 17	5.5.30	10½	2,895	5·67	164·25	200	Jr. 2	
			Glenaire Silvermine ..	Vol. 17	6.5.30	6½	2,603	5·63	146·45	200	Jr. 2	
			Dunalister Mirth Maker	21319	14.5.30	12	5,382	6·01	323·59	325	Sr. 4	260, 313, 352
			Glenaire Duchess ..	Vol. 17	15.5.30	11	4,098	4·88	200·06	200	Jr. 2	
J. W. Harris, Clyde (Jersey)	1	1	Florrie 2nd of Warenda	14214	7.4.30	13	7,022	6·49	455·49	350	Mature	298, 329, 431
F. Harrison, Frankston (Jersey)	2	1	Walbundry Alfa ..	21326	23.4.30	15½	4,496	5·25	235·89	350	Mature	251, 258
			Walbundry Gama ..	25916	10.6.30	14	5,067	6·24	316·03	275	Sr. 3	226
T. Harvey, Boisdale (Jersey)	2	1	Empress 7th of Jerseyholm	18734	15.5.30	12½	5,847	4·86	284·11	350	Mature	139, 304, 336
			Jerseyholm Blue Bell 9th	25394	22.6.30	23	7,149	5·05	361·14	200	Jr. 2	
W. Henderson, Grasmere (Home Farm) (Ayrshire)	5	4	Carracoorte Pearl 9th	17475	10.4.30	4	7,533	4·08	307·33	275	Sr. 3	273
			Sparrovale Jane ..	16666	10.4.30	4	8,053	4·33	348·94	300	Jr. 4	273
			Carracoorte Iris 8th ..	17466	16.6.30	4	4,965	4·34	215·32	225	Sr. 2	
			Carracoorte Minnie 6th	17474	18.6.30	20	8,424	3·80	320·00	225	Sr. 2	
			Carracoorte Iris 9th ..	17467	27.6.30	19½	8,459	3·75	317·55	225	Sr. 2	
W. Henderson, Grasmere (Share Farm) (Ayrshire)	4	1	Carracoorte Bloom 3rd	17449	6.4.30†	4	5,025	3·93	197·60	275	Sr. 3	179
			Lucy 5th of Carracoorte	13624	3.5.30*	4	4,215	4·04	170·40	350	Mature	211, 232, 141, 182
			Carracoorte Sparkle 6th	15862	5.6.30	12	5,939	4·17	247·91	275	Sr. 3	278
			Carracoorte Bunty 11th	17454	17.6.30	10	5,325	4·42	235·57	225	Sr. 2	
L. J. Herd, Heidelberg (Jersey)	1	1	Maid 2nd of Aveley ..	17785	30.4.30	25	7,325	5·69	416·49	350	Mature	
Mrs. E. Hitchens, Werribee (Jersey)	1	1	Boori Classic Milkmaid	25413	15.4.30†	4	3,885	5·68	220·85	200	Jr. 2	
E. H. Howlett, Morwell (Jersey)	2	2	Elderslie Blue Bell ..	Vol. 17	24.4.30	18	4,853	5·29	256·90	200	Jr. 2	
			Latrobe Lily 3rd ..	24398	24.6.30	16	6,020	4·78	287·88	275	Sr. 3	193

* In test 210 days. † 240 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
A. Hubbard, Yarra Glen (Ayrshire)	4	..	Lovely 2nd of Homeleigh	6398	30.3 30	9½	5,399	4·26	229·77	350	Mature	312, 220
			Emoh Ruo Purity 2nd	15981	15.5.30	15	5,544	4·05	224·29	275	Sr. 3	206
			Alvie of Sunnyside	12942	28.5.30	17½	7,662	4·37	334·76	350	Mature	367
			Beauty 2nd of Homeleigh	6392	1.6.30	4½	7,005	3·93	275·44	350	Mature	347
J. A. Huffer, Gormandale (Jersey)	2	2	Sunny Brae Fancy Rose	21359	29.5.30	24	8,544	5·46	466·22	350	Mature	289, 388, 420
			Glen Valley Rose Marie	Vol. 17	13.6.30	18½	5,591	5·36	299·87	200	Jr. 2	
J. Hutchinson and Sons, Somerville (Jersey)	1	1	Somerville Heroine 2nd	25957	14.5.30	20	6,565	5·27	345·86	225	Sr. 2	
L. W. Jakobi, Catani (Jersey)	1	1	Springhurst Laburnum 2nd	26348	3.4.30	17½	5,472	5·49	300·48	200	Jr. 2	
W. T. Jephson, Stacey's Bridge (Jersey)	1	1	Marimba Sunshine Sweetbread	Vol. 18	17.5.30	28	5,534	5·53	306·28	200	Jr. 2	
G. A. Kent, Archie's Creek (Ayrshire)	3	2	Pet of Woolamai Park	12358	9.4.30	22½	8,087	4·08	354·10	350	Mature	264, 265, 334, 375
			Peeress of Woolamai Park	11156	20.5.30	8½	6,234	4·63	288·70	350	Mature	237, 271, 281, 361, 381
			Dorrie of Woolamai Park	20897	23.5.30	10½	4,209	4·85	204·17	200	Jr. 2	
T. Knowles, Dandenong (Ayrshire)	1	1	Pearl of Ayr Brae ..	12557	20.5.30	12½	8,964	3·98	356·38	350	Mature	146
A. Lade, Alexandra (Jersey)	1	..	Sandfly of Greenmeadows	17702	13.7.30	14	6,635	4·76	315·77	350	Mature	
K. C. Lawlor, Caldermeade (Ayrshire)	1	..	Hillcrest Lorna ..	16334	12.6.30	11	6,303	4·78	301·10	325	Sr. 4	263
Mrs. E. M. Lennie, Tongala (Jersey)	3	2	Buttercup of Jersey Vale	11657	19.4.30	15	8,411	5·18	435·70	350	Mature	187, 323, 352, 262, 248, 521, 415
			Princess of Jersey Vale	18887	22.4.30	16	6,588	5·66	373·07	350	Mature	270
			Myra 3rd of the Valley	18494	7.6.30	12	6,318	4·84	305·70	350	Mature	328, 366, 386, 431
T. Leslie, Myrtlebank (Jersey)	1	1	Hibiscus of Aveley ..	13218	4.6.30	25	9,870	4·37	431·64	350	Mature	303, 300
Longerenong Agricultural College, Dooen (Ayrshire)	9	4	Banksia of Longerenong	12431	8.4.30	24	8,093	3·86	312·53	350	Mature	283, 276, 313, 225, 276
			Longerenong Solanum	20494	9.4.30	14½	3,339	4·58	152·90	200	Jr. 2	
			Longerenong Golden Wattle	20483	23.4.30	18	5,552	4·90	272.27	225	Sr. 2	270
			Longerenong Acacia ..	21905	28.4.30	7	5,474	4·62	253.11	250	Jr. 3	289
			Longerenong Palm 2nd	20490	29.4.30	13	5,052	4·23	213·80	200	Jr. 2	
			Holly of Longerenong..	12432	4.5.30	11½	6,651	3·90	259·40	350	Mature	287, 367, 322, 283
			Longerenong Coboca ..	18467	21.5.30	14½	7,373	4·45	327·94	300	Jr. 4	289, 274
			Longerenong Marge ..	18470	5.6.30	12	5,630	4·23	238·15	275	Sr. 3	
			Plume of Longerenong	13824	10.6.30	9	6,707	4·44	297·83	350	Mature	251, 221, 276, 312
C. G. Lyon, Heidelberg (Jersey)	2	2	Banyule Molly 24th ..	24457	29.4.30	19	6,087	4·88	297·10	250	Jr. 3	284
			Tiddlewinks 2nd of Banyule	18822	27.5.30	21½	8,463	5·46	462·49	325	Sr. 4	342, 425

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
C. W. W. Macauley, Rochester (Jersey)	2	2	Taranah Fancy ..	Vol. 17	6.6.30	12	4,079	5·76	234·71	200	Jr. 2	
			Taranah Rosina ..	Vol. 17	22.6.30	N.O.C.	3,858	6·09	235·14	200	Jr. 2	
Miss C. E. McClelland, Tunstall (Jersey)	1	1	Poppy of the Elms ..	21447	5.5.30	28½	8,819	4·97	438·56	350	Mature	266, 380, 355
J. McDougall, Byaduk (Jersey)	5	5	Parkview Heather ..	26055	30.3.30	15½	5,883	5·42	318·62	200	Jr. 2	
			Parkview Thora ..	24481	31.3.30	9½	5,117	5·54	283·39	250	Jr. 3	273
			Laurel of Parkview ..	15544	7.4.30	14	6,816	5·70	388·22	350	Mature	353, 405, 383, 403
			Jessie of Parkview ..	18827	10.6.30	19	9,879	4·90	484·48	350	Mature	314, 367, 395
			Dawn of Parkview ..	21452	16.6.30	26	10,427	4·16	433·94	325	Sr. 4	289, 348
Messrs. McErvale and Son, Camperdown (Jersey)	1	1	Carranballac Lady Carson's Fancy	Vol. 17	7.6.30	18	7,017	5·40	379·09	350	Mature	351
K. McGarvie, Pomborneit (Jersey)	21	21	Greenwood Arethusa ..	25514	31.3.30	21½	7,212	5·19	374·11	225	Sr. 2	
			Greenwood Augusta ..	25522	5.4.30	22	6,414	5·87	376·44	225	Sr. 2	
			Greenwood Accord ..	25493	9.4.30	22½	7,169	4·89	350·41	225	Sr. 2	
			Greenwood Actress ..	25495	9.4.30	14	6,309	4·93	310·94	225	Sr. 2	
			Greenwood Alma ..	25508	11.4.30	18	6,755	5·64	380·97	225	Sr. 2	
			Greenwood Athalie ..	25520	11.4.30	19	7,263	6·66	483·81	225	Sr. 2	
			Greenwood Affiance ..	25501	14.4.30	12	6,215	5·23	325·31	225	Sr. 2	
			Greenwood Alert ..	25505	17.4.30	13	6,435	5·24	337·48	225	Sr. 2	
			Greenwood Alix	25507	17.4.30	12½	5,546	5·96	330·30	225	Sr. 2	
			Greenwood Antonina ..	25512	19.4.30	11	5,958	5·47	325·67	225	Sr. 2	
			Greenwood Bracken ..	25526	20.4.30	11	4,700	5·61	263·56	200	Jr. 2	
			Greenwood Blue Bell ..	Vol. 18	23.4.30	14	4,386	5·28	231·52	200	Jr. 2	
			Greenwood Aria ..	25515	25.4.30	11½	5,777	4·89	282·50	225	Sr. 2	
			Greenwood Annie 2nd ..	25511	27.4.30	22	7,152	4·76	340·25	225	Sr. 2	
			Greenwood Bonnie ..	Vol. 18	30.4.30	18½	5,679	5·84	331·80	200	Jr. 2	
			Greenwood Arabella ..	25513	30.4.30	17½	6,416	5·48	351·86	225	Sr. 2	
			Greenwood Balsam ..	Vol. 18	2.5.30	19½	5,745	5·03	289·21	200	Jr. 2	
			Greenwood Atalanta ..	25519	2.5.30	14½	4,817	4·76	229·11	225	Sr. 2	
			Greenwood Acrasia ..	25494	3.5.30	4	5,627	5·37	302·18	225	Sr. 2	
			Greenwood Alfalfa ..	25506	11.6.30	8	5,616	4·83	271·22	225	Sr. 2	
			Greenwood Aurora ..	25523	21.6.30	17	8,820	5·33	470·00	225	Sr. 2	
G. A. McNabb and Son, Irrewillipe East (Jersey)	4	4	Maxon Sweet Marie ..	Vol. 17	4·4·30	19	5,397	5·22	281·65	200	Jr. 2	
			Grangelea Goldfinch 3rd	23004	7.5.30	20	6,570	5·38	353·66	325	Sr. 4	334
			Maxon Lady Linacre ..	Vol. 17	23.5.30	19	5,070	4·93	249·95	200	Jr. 2	
			Boorene Silver Light ..	25542	2.6.30	23½	6,309	5·97	376·67	200	Jr. 2	
G. A. McNabb and Son (Ayrshire)	1	1	Gleneira Ivory ..	20134	30.5.30	18	6,525	4·43	289·15	225	Sr. 2	
Mesdames McWhae and Silvester, Merino (Guernsey)	6	4	Wollongbar Princess May 6th	1428	16.4.30	15½	7,040	4·93	346·85	325	Sr. 4	414, 372
			Talisker Morning Dew	2217	7.5.30	10	4,586	4·95	226·85	200	Jr. 2	
			Yarra View Meadow Sweet	1269	18.5.30*	4	3,240	4·18	135·30	350	Mature	298, 287, 300
			Minnamurra Rosemary	1232	21.5.30	17½	6,865	5·51	378·07	325	Sr. 4	413
			Minnamurra Orama ..	490	2.6.30	14½	6,083	4·93	329·40	350	Mature	442, 253
			Wollongbar Leonie 6th	1424	3.6.30	14	6,841	5·45	373·07	325	Sr. 4	292, 291
Maher Bros., Seymour (Ayrshire)	2	1	Bruncttc of Gowrie Park	13848	29.4.30	10½	6,819	4·29	292·46	350	Mature	378, 282
			Evelyn Sweetness ..	19976	24.5.30	15½	5,753	4·64	266·92	200	Jr. 2	
Dr. Ramsay Mailer, Shepparton (Jersey)	1	..	Coolwoola Marchily's Lady	26066	9.5.30	16	5,518	4·83	266·74	275	Sr. 3	271
A. R. Marshman, Archie's Creek (Jersey)	3	2	Forgan Charm ..	23310	6.5.30	14	6,224	5·74	357·45	325	Sr. 4	334
			Forgan Gem ..	25558	21.5.30	13⅓	7,119	5·29	376·92	275	Sr. 3	
			Dawn of Wattle Vale	15553	27.5.30	10	6,929	4·73	327·81	350	Mature	357

* 180 days in Test.

Standard Herd Records—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
S. Meadowcroft, Stanhope (Jersey)	3	3	Irymple Star of Eve ..	Vol. 17	28.4.30	17	4,874	6·02	293·65	200	Jr. 2	
			Irymple Twinkle ..	26078	30.4.30	20	6,212	5·95	369·91	250	Jr. 3	320
			Invermay Pretty Peg 2nd	Vol. 17	28.5.30	17½	6,879	4·87	335·17	250	Jr. 3	305
T. Mesley, Dalyston (Jersey)	1	1	Warenda Madrigal 3rd	26084	14.4.30	20	6,164	6·13	377·57	250	Jr. 3	346
E. M. Middleton, Hamilton (Jersey)	6	6	Aveley Songstress ..	Vol. 17	5.4.30	22½	5,585	5·04	281·66	225	Sr. 2	
			Melrose Zoe 10th ..	Vol. 17	1.5.30	21	5,471	5·64	308·35	200	Jr. 2	
			Melrose Handsome Girl 16th	Vol. 17	7.5.30	19½	5,318	6·46	343·66	200	Jr. 2	
			Melrose Graceful Duchess 45th	Vol. 17	1.6.30	18	5,048	6·28	316·99	200	Jr. 2	
			Castlemaddie Velveteen	Vol. 17	7.6.30	19½	5,172	5.99	309·63	275	Sr. 3	389
			Melrose Blossom 11th	Vol. 18	22.6.30	15½	5,279	5·67	299·39	200	Jr. 2	
R. K. Milne, Camperdown (Jersey)	5	4	Allambee Heroine 2nd	24613	8.4.30	17	5,804	4·79	277·84	225	Sr. 2	
			Stonehaven Golden Hope	23323	18.4.30	10½	4,700	5·73	269·33	350	Mature	238
			Lady Jane of Elouera..	10486	5.5.30	18	7,035	5·40	379·63	350	Mature	353
			Allambee Beryl ..	24610	25.4.30	16½	6,399	5·52	353·02	275	Sr. 3	
			Castlemaddie Cornflower 3rd	25282	30.5.30	11½	5,360	5·75	308·12	225	Sr. 2	209
J. Moore and Co., Yarram (Jersey)	3	..	Burnside Lotus 3rd ..	23324	21.4.30*	4	3,840	4·92	188·90	300	Jr. 4	
			Tooloonook Trixie ..	Vol. 18	13.5.30*	4	4,748	5·45	258·98	350	Mature	
			Antimoneys Angler of Belle Vue	14216	17.5.30†	4	4,227	4·74	200·26	350	Mature	
E. Nichols, Springhurst (Jersey)	7	4	Phoebe of Blowering ..	18878	2.4.30	13	5,207	5·92	308·29	350	Mature	370, 364
			Nickel Bar Shirley Poppy	26115	14.4.30	13½	4,478	5·94	266·13	225	Sr. 2	244
			Nickel Bar Gipsy ..	26111	15.4.30	10	3,852	5·74	221·14	225	Sr. 2	219
			Nickel Bar Dewdrop ..	24529	20.4.30	13½	4,995	5·86	292·49	275	Sr. 3	270, 295
			Daisy Bell of Blowering	18876	13.5.30	4	5,550	4·50	249·64	350	Mature	251, 238
			Nickel Bar Ruby ..	26114	14.5.30	12½	6,624	4·82	319·57	250	Jr. 3	259
			Nickel Bar Peggy ..	Vol. 17	24.5.30	10	5,015	5·14	257·79	200	Jr. 2	
B. R. O'Meara, Caldermeade (Ayrshire)	3	1	Scotswood Sylvia ..	10321	28.4.30	23	9,165	3·80	348·10	350	Mature	213, 194, 292, 201, 347, 303
			Leila of Hillcrest ..	9083	15.5.30	22½	9,344	3·91	365·06	350	Mature	189, 209, 260, 272, 266, 257, 441
			Scotsville Queen ..	20727	22.6.30	10	4,926	3·81	187·75	200	Jr. 2	
Mrs. L. Orchard, Grahamvale (Jersey)	4	3	Jerseyvale Patty ..	26118	2.4.30	17	5,819	4·97	289·49	300	Jr. 4	192
			Snowdrop of Jerseyvale	11659	8.4.30	22	6,809	5·17	351·71	350	Mature	164, 285, 302, 257, 302, 335
			Daphne of Jerseyvale	15578	17.4.30	16	7,297	5·21	379·91	350	Mature	269, 332, 366
			Jerseyvale Petal ..	26119	8.6.30	16½	6,806	4·34	295·66	275	Sr. 3	221
Mrs. A. C. Overend, Sale (Jersey)	2	1	Peggy of Bon Accord..	21545	9.4.30	21	5,998	6·11	366·65	325	Sr. 4	260, 353, 364
			Kirsty 18th of Jerseyholm	18738	16.5.30	8½	4,864	5·74	279·15	350	Mature	280, 282
W. Parbury, Westburn (Jersey)	6	3	Sunshine 7th of Brookfield	18898	6.4.30	23	7,881	4·72	371·71	350	Mature	195, 257, 300
			Golden Leaf 10th of Brookfield	21555	10·5·30	12	3,240	5·66	183·41	325	Sr. 4	262, 359
			Rosebud 6th of Brookfield	18893	25.5.30	18½	5,889	4·52	266·06	350	Mature	228, 225, 292
			Golden Leaf 12th of Brookfield	21556	3.6.30	19½	6,204	5·26	326·23	275	Sr. 3	353
			Sunshine 9th of Brookfield	18900	6.6.30	16	6,423	5·06	324·96	350	Mature	195, 271, 299
			Sunshine 6th of Brookfield	18897	16.6.30	20½	8,720	4·42	385·73	350	Mature	

* 240 days in Test. † 210 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
W. H. Pearce, Eurack (Jersey)	4	4	Lucerne Vale Twylish Beauty	25350	15.4.30	16	4,278	6·08	259·90	200	Jr. 2	
			Lucerne Vale Twylish Trixie	25351	28.4.30	18	5,831	5·35	311·82	200	Jr. 2	
			Lucerne Vale Lily 3rd	25349	17.5.30	15½	4,788	5·32	254·73	200	Jr. 2	
			Lucerne Vale Battles Trixie	25345	20.5.30	15½	4,140	5·12	212·09	200	Jr. 2	
J. Phillips, Swan Hill (Jersey)	1	..	Empire of Peri ..	18913	2.6.30	15½	4,857	5·85	284·06	350	Mature	309, 206, 314, 306
J. Plattfuss, Tongala (Friesian)	1	1	Greenvale Rosie Key's 2nd*	Vol. 11	13.1.30	36	8,076	2·99	241·45	200	Jr. 2	
Mrs. M. A. Poole, Caldermeade (Ayrshire)	7	1	Bona Vista Marcia ..	12428	1.4.30	20½	7,547	4·06	306·48	350	Mature	303, 316, 221, 299, 163
			Ryland's Boronia ..	20713	12.4.30	8½	4,439	4·29	190·32	225	Sr. 2	
			Ryland's Pride ..	20718	17.4.30	10½	4,380	4·77	208·98	225	Sr. 2	
			Ryland's Pearl ..	16599	6.5.30	4	6,801	4·36	296·33	275	Sr. 3	310
			Gleneira Hood ..	18054	15.5.30	5	4,260	4·30	183·39	275	Sr. 3	208
			Clairmont Princess ..	15870	7.6.30	16½	4,944	4·40	217·48	300	Jr. 4	239
			Bush Bank Fairy ..	15804	24.6.30	17	7,083	4·04	286·45	325	Sr. 4	218, 254
J. Powell, Camperdown (Jersey)	5	3	Mt. Violet Starlight ..	Vol. 18	2.4.30	13	4,260	5·63	240·00	200	Jr. 2	
			Carson's Pet of Carranballac	17412	2.4.30	17	6,587	4·85	319·21	350	Mature	344
			Blanchette 6th of St. Albans	14160	23.4.30	16	6,156	5·26	323·86	350	Mature	
			Mt. Violet Madeira Maid	24551	24.4.30	18	6,099	5·14	313·66	250	Jr. 3	
			Mt. Violet Patricia ..	Vol. 18	26.5.30	15	6,067	5·47	277·01	200	Jr. 2	
R. Purnell, Moriac (Jersey)	3	3	Narrawong Lady Antimoney 3rd	C.R.	19.4.30	11½	3,831	5·09	229·54	225	Sr. 2	
			Narrawong Twylish Maid 2nd	C.R.	21.4.30	20	6,189	5·87	363·05	200	Jr. 2	
			Narrawong Jessie 2nd	Vol. 17	1.5.30	14	5,106	5·57	284·54	200	Jr. 2	
Miss H. E. Raleigh, Pakenham Upper (Jersey)	1	1	Goronga Farm Queen of Trumps	26160	18.5.30	22	5,700	5·81	331·23	250	Jr. 3	276
J. D. Read, Springhurst (Jersey)	10	10	Springhurst Medick 3rd	Vol. 17	30.3.30	15	4,019	6·31	253·43	200	Jr. 2	
			Springhurst Nightshade 3rd	26170	31.3.30	17	5,481	6·59	360·95	200	Jr. 2	
			Springhurst Tecoma 3rd	26174	31.3.30	17½	7,181	6·30	452·71	225	Sr. 2	337
			Aconite of Springhurst	21598	31.3.30	22	8,454	5·92	500·89	300	Jr. 4	417, 373
			Nardoo of Springhurst	18936	31.3.30	23½	9,029	6·12	552·95	325	Sr. 4	301, 458, 386
			Springhurst Melilot 3rd	26167	2.4.30	15	5,047	6·42	323·93	200	Jr. 2	
			Tulip 2nd of Springhurst	9067	12.4.30	25	9,861	5·12	504·40	350	Mature	316, 278, 517, 438, 584, 462, 514, 476
			Springhurst Cornflower 6th	26164	18.4.30	15	4,274	6·54	279·70	200	Jr. 2	
			Springhurst Tomato 2nd	26175	19.4.30	18	5,529	6·16	340·34	200	Jr. 2	
			Tomato of Springhurst	18939	24.6.30	33	11,052	5·13	567·23	350	Mature	302, 533, 604
Miss S. L. Robinson, East Kew (Jersey)	2	2	Kyora Merry Mike's Mayflower 4th	26441	23.5.30	16½	7,019	4·92	345·61	325	Sr. 4	314
			Kyora Sultan's Adore 2nd	23408	29.5.30	25	9,311	5·18	482·16	325	Sr. 4	364, 529
D. M. Ryan, Pirron Yallock (Australian Illawarra Shorthorn)	3	3	Shamrock of the Pines	10130	12.5.30	19½	8,808	3·89	342·66	250	Jr. 3	334
			Butterfly 3rd of Fairfield	Vol. 1	4.6.30	17½	8,387	3·91	328·17	200	Jr. 2	
			Maisie 2nd of Fairfield	Vol. 1	5.6.30	18½	8,229	4·01	329·99	200	Jr. 2	

* Omitted from previous report.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
R. W. Sadler, Noorat (Ayrshire)	4	2	Bluebell of Burnbrae ..	14127	13.4.30	7½	7,538	4·14	312·19	350	Mature	345
			Oakbank Mabel ..	15256	21.4.30	5½	6,790	4·28	290·84	350	Mature	320
			Burnbrae Belladonna	17384	17.5.30	12	8,078	4·47	361·20	225	Sr. 2	
			Burnbrae Baroness ..	17382	5.6.30	12	7,719	4·11	317·34	200	Jr. 2	
A. H. Schier, Kernot (Ayrshire)	3	1	Dulcie of Ayr Brae ..	12551	26.4.30	12½	6,293	3·88	244·07	350	Mature	335
			Scotswood Mitre ..	16623	27.4.30	22½	7,343	3·90	286·41	350	Mature	323, 278, 254, 337
			Scotswood Music ..	20744	23·5·30	11	4,388	4·81	211·06	200	Jr. 2	
C. H. Sell, Irrewillipe East (Jersey)	6	4	Avalon Mercedes Duchess 2nd	22942	26.5.30	8½	6,254	5·24	327·86	300	Jr. 4	362
			Mendip Pearl 3rd ..	23464	5.6.30	12½	6,284	5·72	359·55	300	Jr. 4	299, 413
			Avalon Mercedes Beauty 2nd	22934	16.6.30	10	4,365	6·62	289·08	275	Sr. 3	293
			Avalon Mercedes Belle 4th	22935	16.6.30	17½	5,582	4·65	259·64	300	Jr. 4	264, 236
			Avalon Mercedes Buttercup 11th	22941	19.6.30	7½	6,593	4·78	315·32	275	Sr. 3	285
			Gaiety Girl 12th of Melrose	12247	27.6.30	10	4,677	5·51	257·63	350	Mature	246, 222, 276, 308
Dr. S. V. Sewell, Berwick (Friesian)	5	4	Roads End Fauna ..	C.R.	9.4.30	32	7,460	3·08	229·67	200	Jr. 2	
			Winlaton Viola ..	C.R.	21.4.30	29	6,893	3·58	246·88	200	Jr. 2	
			Burnbank Holland Lass Triumph	1807	24.4.30	14½	8,774	3·31	290·85	350	Mature	
			Burnbank Thenea Patch	1822	28.4.30	36	10,913	3·59	392·04	350	Mature	
			Roads End Alca ..	C.R.	6.6.30	26½	7,929	3·53	280·06	275	Sr. 3	287
Dr. S. V. Sewell, Berwick (Guernsey)	2	..	Caramana Dorothy ..	1739	4.5.30	..	4,077	5·30	216·11	250	Jr. 3	
			Bessie 4th of Les Quartiers	(imp.)	1.6.30	..	4,979	4·78	237·84	225	Sr. 2	
C. L. V. Sharp, Murrabit (Friesian)	1	..	Burnbank de Kol Kroons	2119	16.5.30	25	9,120	3·61	329·44	350	Mature	170, 241, 260
J. R. Smethurst, Thorpdale (Jersey)	3	3	Aveley Flicker ..	23440	4.5.30	17½	6,794	5·62	381·67	325	Sr. 4	318, 302
			Bray Tor Grey Lady ..	Vol. 18	18.6.30	10	4,470	4·50	201·09	200	Jr. 2	
			Aveley Sundae ..	23443	24.5.30	14	7,096	5·58	395·64	325	Sr. 4	298, 337
Smith and Sons, Woodend (Friesian)	1	1	Homeleigh Operetta ..	2798	13.4.30	21	7,303	3·73	272·08	225	Sr. 2	
F. P. Stephens, Tongala (Jersey)	1	1	Fourshells Hope ..	Vol. 17	15.6.30	21	6,659	6·45	429·39	200	Jr. 2	
R. Stockdale, Koonwarra (Jersey)	3	3	Jersey Hill Silvermine	23427	25.5.30	17	8,291	4.65	385·72	275	Sr. 3	
			Flower of Jersey Hill..	13781	20.6.30	19½	9,500	6·08	577·47	350	Mature	
			Lyndale Pansy ..	Vol. 17	27.6.30	15½	7,373	5·44	401·44	200	Jr. 2	
Telford Bros., Kyabram (Ayrshire)	2	1	Hyde Park Daphne's Promise	16354	6.4.30	24½	8,517	4·22	359·24	250	Jr. 3	295
			Dorothy of Hyde Park	10507	20.6.30	12	8,483	3·65	309·99	350	Mature	309, 362
T. H. Trigg, Deningtón (Jersey)	4	2	Lipook Lady Grey ..	Vol. 17	2.4.30	13½	7,368	4·65	342·94	350	Mature	
			Narkunda of Glen Iris	14171	9.5.30	22½	7,463	4·94	368·35	350	Mature	249
			Lipook Lady Grey 2nd	25633	21.5.30*	4	4,365	4·27	186·13	250	Jr. 3	
			Kyora Mayflower 5th	23083	17.6.30	13	4,959	5·87	291·03	275	Sr. 3	

* 240 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
J. F. Tuckey, Alberton (Ayrshire)	1	1	Tregorland Kersey ..	16865	1.5.30	17	7,281	4·48	325·97	300	Jr. 4	210, 327
W. Tulloch, Kongwak (Ayrshire)	1	..	Princess of Ayr Brae ..	9973	9.6.30	N.O.C.	6,219	3·94	244·83	350	Mature	240, 252, 209
J. Unthank, Somerville (Jersey)	1	1	Seaweed of Comely Banks	18709	27.5.30	17	6,365	5·76	366·46	325	Sr. 4	
E. J. Vagg, Leongatha (Jersey)	1	1	Bonnay Jessamine's Dot	Vol. 18	12.5.30	15½	4,370	5·92	258·88	200	Jr. 2	
Mrs. F. R. Vale, Yarram (Jersey)	1	1	Brookfield Sunshine 13th	C.R.	14.4.30	13½	4,931	4·61	227.27	200	Jr. 2	
J. R. Van Brummelen, Ferntree Gully (Friesian)	1	1	Bolero Sylvia Grietje..	1471	5.6.30	47	15,725	3·20	503·50	350	Mature	
Vaughan Bros., Girgaree (Jersey)	1	1	Lynroy Dorcen ..	C.R.	1.5.30	8	4,943	5·28	260·83	200	Jr. 2	
D. Wadelton, Loch .. (Ayrshire)	6	4	Dalblair Satin ..	19814	1.4.30	18	6,035	3·45	208·18	200	Jr. 2	
			Dalblair Lux ..	19812	2.4.30	23	6,980	4·10	286·24	225	Sr. 2	
			Dalblair Carnation ..	17721	11.4.30	13½	5,602	3·68	205·91	250	Jr. 3	
			Dalblair Stella ..	19815	14.4.30	22	6,790	3·85	261·22	225	Sr. 2	
			Glenelra Quality Algie	20153	17.5.30	13	6,365	3·82	243·37	225	Sr. 2	
			Dalblair Holly ..	19806	5.6.30	22	8,420	4·09	344·46	225	Sr. 2	303
C. S. Walker, Swan Hill (Friesian)	2	1	Burnbank Pietertje Violet	2390	30.5.30	32	9,356	3·65	341·43	350	Mature	
			Burnbank Maggie Alcartra	Vol. 11	11.6.30	32½	8,855	3·69	326·97	325	Sr. 4	
C. S. Walker, Swan Hill (Jersey)	1	1	Warwick Bell Bird ..	26270	27.6.30	28	8,051	5·07	407·99	275	Sr. 3	229
A. Wallace, Bendigo (Ayrshire)	4	2	Springdale Dawn ..	15623	10.4.30	15	6,981	4·35	303·76	350	Mature	293
			Glen Cooee De Luxe ..	15080	15.4.30	23	7,991	3·83	306·45	325	Sr. 4	
			Virtue of Glen Cooee ..	11230	27.4.30	20½	8,889	4·20	373·70	350	Mature	
			Glen Cooee Velox ..	18008	27.4.30	20½	7,107	4·47	317·62	275	Sr. 3	
A. Wallace, Bendigo (Jersey)	1	1	Vine Hill Pansy ..	Vol. 17	9.6.30	9½	5,544	5·07	281·13	200	Jr. 2	
Walsh Bros., Lyndhurst (Red Poll)	2	..	Korong Beauty 3rd ..	1324D	9.4.30	9	7,016	4·08	286·54	350	Mature	285
			Victoria Vista ..	1676A	20.4.30	11½	8,027	4·07	326·96	350	Mature	250, 363
H. Watson, Leongatha (Jersey)	1	1	Stumpy's Queen of Round Hill	21340	18.6.30	18	6,609	6·16	406·82	350	Mature	317
H. L. Webb, Sunbury (Ayrshire)	1	..	Holly Green Moss Rose	15630	8.5.30	17½	6,579	4·23	278·11	300	Jr. 4	307

STANDARD HERD RECORDS—*continued.*

Owner.	No. complete Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
W. O. Westlake, Portland (Jersey)	1	1	Clarendon Eyre Firefly	26286	6.5.30	15	6,423	4·35	279·62	250	Jr. 3	293
A. C. Willis, Paschendale (Jersey)	5	2	Murndal Topsy	24660	31.3.30	N.O.C.	5,253	4·92	258·59	275	Sr. 3	220
			Carney Dell Starfinch	26282	12.4.30	11½	6,357	4·84	307·46	225	Sr. 2	225
			St. Albans Cream Belle 2nd	26283	5.5.30	16½	6,170	5·64	347·81	300	Jr. 4	262
			Dainty Lass of Carney Dell	19022	22.5.30	15	7,847	4·29	336·29	350	Mature	205, 315, 285
			Carney Dell Noble Lass	Vol. 18	2.6.30	10	4,115	4.26	175·48	200	Jr. 2	
D. C. Wilson, Derrinallum (Jersey)	4	3	Brightside Bessie	Vol. 17	6.4.30	10½	5,604	5·13	287·53	250	Jr. 3	
			Ayton Law Noble Silvie	24649	2.6.30	12	5,627	5·50	309·33	275	Sr. 3	263, 278
			Ayton Law Noble Topsy	21748	15.5.30	18	6,648	4·47	297·27	300	Jr. 4	247, 347
			Silvie's Fern of Kinross	21751	15.6.30	14½	7,007	5·07	355·28	325	Sr. 4	357, 424
J. V. M. Wood, Heidelberg (Jersey)	3	3	Clarendon Eyre Betty	C.R.	25.4.30	16½	5,267	4·72	248·79	200	Jr. 2	
			Clarendon Eyre Wildflower	Vol. 17	26.4.30	18½	6,105	5·11	311·98	200	Jr. 2	
			Clarendon Eyre Little Buttercup	24675	7.6.30	22	7,355	5·87	431·60	275	Sr. 3	333
W. Woodmason, Oakleigh (Jersey)	2	2	Blossom 8th of Melrose	17513	2.4.30	22	7,353	5·38	395·92	350	Mature	261, 287, 295, 355
			Werribee Fancy Clementine 2nd	10169	16.6.30	20½	7,641	5·19	396·19	350	Mature	373, 277
G. T. Young, Sedgwick (Jersey)	1	1	Preston Fairy Queen	23540	6.6.30	19½	7,532	4·61	347·16	325	Sr. 4	

Calf-marking Scheme

Under the calf-marking scheme adopted by the Victorian United Cow Testing Association, the correct method of marking the calf is to tattoo in the right ear a replica of the firebrand carried by its dam. Thus in the case of a cow branded $\frac{x\,8}{9\,9}$ the calf should have $\frac{x\,8}{9\,9}$ tattooed in its right ear. In the left ear will be tattooed the registered mark of the scheme and the letter in use for the year.

Old Journal Required

Owing to the heavy demand for copies the *Journal* for January of this year is out of print. Requests are still being received for copies; in some cases from Libraries, where it is desired that a complete set be kept for reference.

If any reader has a copy which he will let the Department have, it will be gratefully received. Stamps need not be affixed when any such *Journal* is being sent; postage will be paid by the Department.

Home of Famous Layers

White Leghorns, Black Orpingtons, and Rhode Island Reds

Consistent in Egg-Laying Competitions—
Won Bendigo Teams Test Black Orpingtons (1700 Eggs), 1930-31
2nd, White Leghorn Teams Test, 1930-31

Cockerels for Sale — Day Old Chickens
Heavy Breds, £6 per 100 — White Leghorn Chickens, £5 per 100 — Eggs from 10/6

Price list on application to

M. T. KIDD, "The Wattles," Barker's Creek Telephone: Castlemaine 211

SHELL
Defiance Blowfly Oil is obtainable in 4 gallon and 1 gallon tins.

SHELL
Sheep-Branding Oils—in 5 gallon drums, and also 4 and 1 gallon tins.

SHELL
Redspray is prepared in 40 gallon drums, and 4 and 1 gallon tins.

THESE PRODUCTS WILL HELP YOU!

For the man who desires to effect a rapid and complete cure of shear cuts, dog bites, barbed wire wounds, etc., on sheep, with freedom from blowfly attacks—SHELL DEFIANCE BLOWFLY OIL is the only sure remedy.

SHELL SHEEP-BRANDING OILS—in four colours: Red, Black, Blue and Yellow, resist removal by heavy rain or rubbing, but disappear completely in the scour. Harmless to delicate wool fibres and skin.

SHELL REDSPRAY—the Winter fruit spray, kills all troublesome insect eggs before they mature in the Spring.

SHELL STOCK-MARKING PENCILS—in three colours: Black, Red and Blue, are the most economical and efficient means of temporarily branding all classes of stock, bags, wool bales, etc.

SHELL
Stock-Marking Pencils are sold in metal containers that fit the pocket.

PRODUCTS OF THE SHELL COMPANY LIMITED

M.P.11.

THE ADECO LID PRESS

With Improved Compensating Arms, which provide for variations in size of shooks

For

Standard Cases	£3 17 6
Dump Cases	£3 17 6
Long Flat Bushels	£4 10 0
Combination for Standards and Dumps	£4 7 6

CHEAP
but
EFFECTIVE

GERRARD WIRE-TYING MACHINES Co. Pty. Ltd. - Melbourne, Sydney, Brisbane, Adelaide, Perth

Sheep Dip at J. R. Moodie's, Nigretta East, near Hamilton, Victoria
A noted Corriedale Stud Property

"ARC"

BRAND

GEELONG CEMENT

for

Every Form of Concrete Construction

Workability and high-early strengths make "ARC" Cement particularly suited for Farm and Station use

Write us about the job you want to do in concrete; we may have a booklet dealing with your problem, which will be sent free

Insist on this brand from your Storekeeper

AUSTRALIAN CEMENT LIMITED

Head Office : 422 Collins Street, Melbourne, C.1 'Phone : Cent. 1773
Works: Fyansford, Geelong, Victoria

Farm with the Fordson . . . for increased profits

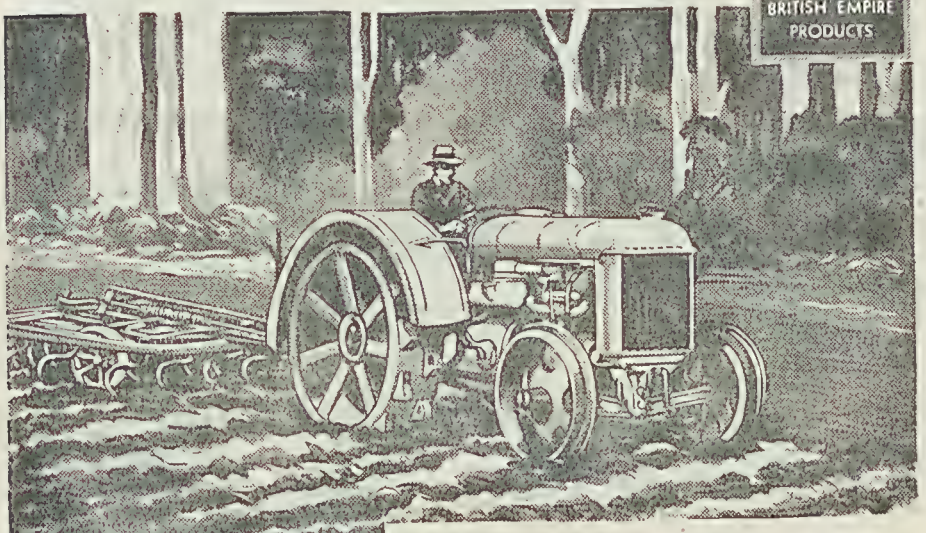
Farming, like any other business, produces profits only when the costs of production are less than the market price of the commodities produced. In difficult times, profits are made only by those who find the means of increasing efficiency and lowering costs. These are the men who today are using the New Fordson Tractor . . the men who have *proved* that substantial savings are made possible by the Fordson's low cost, low depreciation and low working expense.

With the New Fordson you can do the work of an eight-horse team . . . faster, better, and much more economically. Every farming job is done on time, with no costly delays for feeding, harnessing or resting. And when field work is slack, you'll always find a job for the Fordson at haulage or belt work. It is the handiest power unit you can have on the farm, and is never idle plant.

Ask your nearest Ford Dealer for the full story of the New Fordson Tractor . . . . . Ford Motor Company of Australia Pty. Ltd.

The Standard Fordson : £220 at nearest Ford Works. Sales Tax Extra.

FORD CARS TRUCKS AND TRACTORS ARE BRITISH EMPIRE PRODUCTS



With the New Fordson Tractor you can cultivate 25 acres per day (against an eight-horse team's 15 acres) on much less than half a gallon of power kerosene per acre.

The NEW FORDSON Tractor

Fn./11.

A MAN WANTS TO KNOW THAT HIS MONEY IS SAFE

SPECULATIONS and investments in some cases offer higher rates of interest than does a State Savings Bank account, but for SAFETY and SOUNDNESS very few of them equal it, while for CONVENIENCE a State Savings Bank account stands alone.

The convenience of having money "at call" which is at the same time earning 4 per cent. compound interest is a feature which clinches the matter in the eyes of the 1,250,000 clients of the bank.

AVAIL YOURSELF OF THE SOUNDNESS, SAFETY, AND CONVENIENCE OF THE

STATE SAVINGS BANK OF VICTORIA

Reserve Fund: £2,700,000

ALEX. COOCH,
General Manager.

LYSAGHT'S AUSTRALIAN MADE WIRE NETTING PROOF SYDNEY N.S.W.

LYSAGHT'S

100% AUSTRALIAN MADE 100%

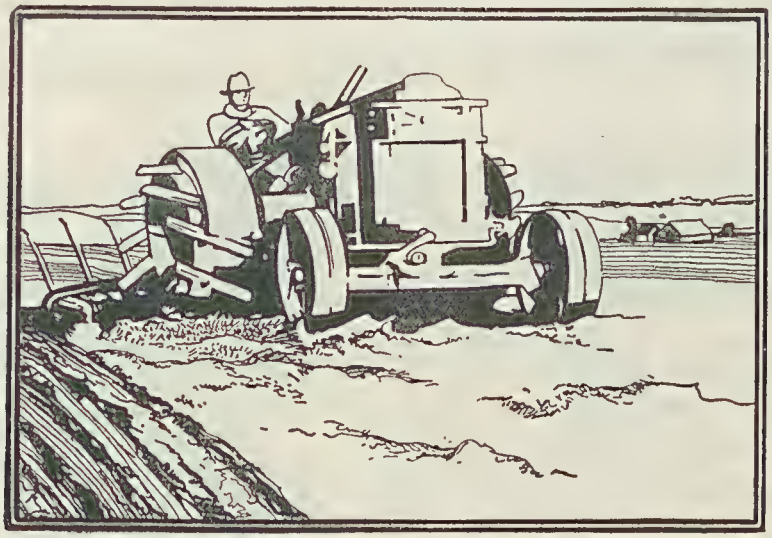
Fencing and Other Wires
Wire Netting Zinc Oxide

Our Netting and Other Products are known through the Commonwealth as of the highest standard. Obtainable from all leading Merchants and Storekeepers.

LYSAGHT BROS. & CO. LTD.

Head Office: 17-19 Bridge St., Sydney
Works: Parramatta River

Agents for Victoria:
Gibbs, Bright & Co., 34 Queen St., Melbourne



Texaco Tractor Oil
Protects Your Investment

Now more than ever is the time to protect and preserve your invested capital. Your tractor represents an amount of money which should yield large dividends, and it will do so if you use Texaco Tractor Oil.

In order to make profit, your Tractor must be running without a hitch all through the busy season—no mechanical breakdowns—no carboned-up engine. The way to ensure this is to use Texaco Tractor Oil. It preserves and protects the bearings. Keeps your engine clean, ensures sweet running through all the heavy duties you expect from your engine.

THE TEXAS COMPANY (AUSTRALASIA) LIMITED

Branches in all States

TEXACO
TRACTOR OIL

LAW, SOMNER'S OFFER SUBTERRANEAN CLOVER

THE CELEBRATED MT. BARKER, SOUTH AUSTRALIAN GROWN SEED (CROP 1931) Guaranteed True and Passed by Dept. of Agriculture.

SPECIALLY RE-MACHINE CLEANED SEED.

No. 1 Quality .. .. 1/5 lb.
No. 2 Quality .. 1/3 lb.
less 1d. lb. on cwt. lots or more.

WIMMERA RYE GRASS

(From McDOUGALL'S STRAIN)

The True Purple-stemmed Variety.

7/- bushel

Western District Ryegrass—No. 1, Best, 8/6 lb.; No. 2, Prime, 8/- bushel.
N.Z. Ryegrass—7/6 bushel.
Cocksfoot—Danish, 1/- lb.; N.Z., 1/1 lb.; Vic. (with little Ryegrass), 11d. lb.
Clover, White Dutch—Best, 1/7 lb.; Prime, 1/6 lb.
Cowgrass—Giant N.Z., 1/3 lb.; 130/- cwt. Ordinary, 1/2 lb.; 120/- cwt.

Write for Special Price List.

LAW, SOMNER PTY. LTD.

The Oldest-established Seed House in Victoria (Established over 81 years)

Block Place, Melbourne, C.1.

THE VICTORIA HERD OF

RED POLL CATTLE

Maintained for Milk and Beef at the State Research Farm, Werribee

is the

Largest Registered Herd-tested Red Poll Stud in the Commonwealth

3 BULL CALVES **FOR SALE** 3 BULL CALVES

All are progeny of tuberculin-tested stock, and of cows tested in the Standard Herd Test. All are eligible for Registration in the Red Poll Herd Book of Australasia.

1. *Born* .. .. 19th May, 1931
Sire Dominion Bright Belgian
Dam Victoria La Regal (718 A)
25 Guineas

2. *Born* .. 30th December, 1930
Sire .. Earl of Beaconsfield (35 AA)
Dam Victoria Velbit (2341 A)
17 Guineas

3. *Born* .. 11th February, 1931
Sire Dominion Bright Belgian
Dam .. Victoria Euphrates (716 A)
24 Guineas

The prices quoted are based on the butter-fat production of the dam at the rate of 1/- per lb.

Inspection cordially invited. For further particulars apply to—

Dr. S. S. Cameron, Director of Agriculture, Melbourne, C.2
or The Manager, State Research Farm, Werribee

NATIONAL TRUSTEES

Executors & Agency Company of Australasia Ltd.

DIRECTORS:

EDWARD FITZGERALD, Esq., LL.D., Chairman.
JOHN I. WINTER-IRVING, Esq. CHAS. R. MURPHY, Esq.
JOHN S. FEEHAN, Esq. EDWARD RYAN, Esq., M.B. et Ch.B.

This Company Acts as Executor or Joint Executor of Wills, Administrator, Trustee of Settlements, and Agent for Absentees under Power of Attorney.

Offices—113 Queen Street (Corner of Little Collins St.), Melbourne

CHAS. CROMIE, Manager.

Billabong & Busy-B Windmills

Both Australians

Billabong Pumping Plants owe their superiority to more than 50 years of manufacturing experience. They fully comply with the needs of the Australian Farmer.

Expert opinion is that the Billabong stands FIRST among Encased-Gear Windmills. Its complete Cast Iron Casement keeps out rain and dust, and forms a perfect oil well for Gears, &c., and provides for perfect lubrication.

The Busy-B (a 5-ft. Mill) meets the demand for a small Mill to pump water for uses about the homestead. Design is simple and workmanship quite up to the Billabong standard. The price, complete with attachment for fixing to wood post, is £7/-/-

Windmill Catalogue Post Free on application

Bore Casing and Pipes and Fittings for Irrigation at Lowest Prices

JOHN DANKS & SON PTY. LTD.

391-403 BOURKE STREET, MELBOURNE, C.1
324-330 PITT STREET, SYDNEY

FURTHER TESTIMONY COMES FROM NEW SOUTH WALES

Southwell Bros. of Junee, when writing in reference to Footrot in Sheep, said :—

"YOUR FORMALIN IS NOW OUR SOLE REMEDY."

"The best cure I have ever used" for FOOTROT in Sheep

—says Mr. A. J. Staughton

Up to now I have spent hundreds of pounds trying all patent dressings and cures; also continually put them through Arsenic; but undoubtedly your Formalin has proved a long way the best cure I have ever used.

Kindly send me 10 gallons (about) more of your Formalin.

(Signed) A. J. STAUGHTON.

"Sickle" Brand Formalin enjoys the highest recommendation of leading Pastoralists throughout the Commonwealth. It is economical and easy to use, swift and thorough in action, and quickly effective as a preventive or cure for Footrot in Sheep.

Sickle Brand

FORMALIN

For FOOTROT

Hardens the hoof in less than 48 hours

Supplied in three-gallon jars at 11/6 per gallon (Melb.); jar extra, returnable. Also 1-gallon and 1-lb. sizes. From our agents everywhere or your own storekeeper.

COMMONWEALTH FERTILISERS & CHEMICALS LTD.
65 William Street (G.P.O. Box 390), Melbourne

"Give Your Fowls Sterilized Food"

Analysis :
Protein 60%
Moisture 10%
Fat 7%
Mineral Ash } 23%

It is easy to understand how disease can be set up if unwholesome foods are given to poultry, and stale foods—often bought because of their cheapness—soon prove dear when loss of good birds is a result.

Flesh and bone is an absolute essential in the diet of your fowls, but it MUST be HEALTHY flesh and bone, with its wholesomeness retained. The only way in which this can be done is by sterilization. Every particle of

"Dandy" Poultry Food

Is *Thoroughly* Sterilized

by a special secret dry steam process that guarantees its wholesomeness from first to last.

"Dandy" Poultry Food is prepared from our own animals, slaughtered under strictest Government supervision and passed for human consumption.

This flesh and bone food has proved itself the best "conditioner" for all fowls—whether layers, breeders, or table birds.

Pure and wholesome, it contains no chemical admixture whatever—its beneficial properties being natural and sure without forcing.

Proportion to Feed—
10 % to 12 % with Other Food

Protect the Health of Your Birds Start with "Dandy" TO-DAY

Supplied in 25, 50, and 100-lb. Bags or in 1-ton Lots

Obtainable Grocers and Produce Merchants

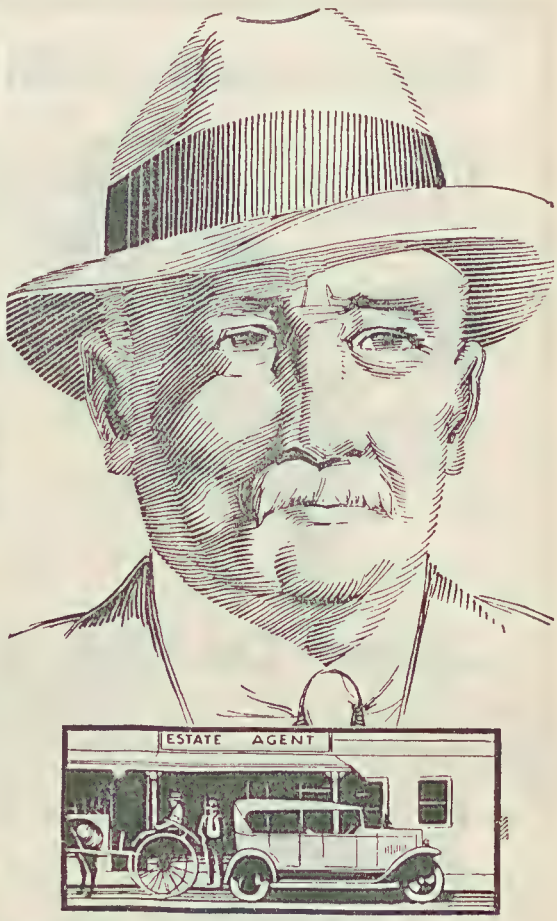
If any difficulty in obtaining, write direct to

Gippsland Co-op. Bacon Curing Co. Ltd.

Registered Office and Factory : Dandenong P.O. Box 42

Packers of the famous "Dandy" Hams & Bacon

Testified to by the Govt. Poultry Expert



The Real Estate Agent speaks . . . .

"A car's a necessity in my business. The Real Estate game keeps a fellow moving—fast, and sometimes far. And these days I've got to watch costs, so I'm keen on economy. I've tried all brands of petrol and I'm not easy to fool. That's why you'll find me at the C.O.R. pump when my tank needs a fill. So long as I can get two extra miles from every gallon—*and that's what I'm doing*—I'm sticking to C.O.R. And my money stays in Australia—that's a good point with me, too."

C·O·R

MOTOR SPIRIT *and Power Kerosene*

THE COMMONWEALTH OIL REFINERIES LTD.
(Commonwealth Government & Anglo-Persian Oil Co. Ltd.)
Poolman St., Port Melb., S.C.7. Phone: M3261 Refinery: Laverton, Vic.

Is a simple arrangement that multiplies the power at the handle 260 times—handy to use, easy to move, quickly rigged, and works in roughest country. Standard equipment pulls trees and stumps from 1½ acres without changing anchor. Many other time and labour-saving features. Catalogue with pleasure.

TREWHELLA BROS. PTY. LTD., TRENTHAM

G.&N. PASTURE MIXTURES

"Exceptionally Clean and True to Name"

Mr. J. F. Vuillermin, of Fish Creek, writes—"I am a yearly purchaser of Grass Seeds, and I must say right here that all seeds purchased from G. & N. have given very satisfactory results indeed, and the seeds have always been found exceptionally clean and true to name." A typical tribute to G. & N. Quality—G. & N. Germination—G. & N. Purity, 100% Growth. All supplies are guaranteed fresh, tested by experts, and approved of by the Department of Agriculture.

G. & N. GRASSES

Sow 1½ to 2 bus. per acre. 20 lb. supplied per bus.

RYE GRASS—
Western District, "A" Grade, saved off old pastures, and most suitable for a permanent pasture sowing .. .. 9/– bus.
Wimmera, best quality, new season's seed, absolutely reliable and selected seed .. .. 7/6 bus.
Wimmera, good quality, machine-dressed 6/6 bus.
English Perennial (short-seeded), saved off old pastures .. .. .. 9/– bus.
English Perennial, standard quality .. 8/– bus.
Western Wolths, machine-dressed .. 8/6 bus.
Italian (Annual) .. .. .. 8/– bus.
PASPALUM DILATATUM—
New Crop, hand shaken .. .. 1/2 lb.
½ cwt. lots and over .. 120/– cwt.
PHALARIS—Bulbosa (true) .. 5/6 lb.

Specially Reduced Prices

will be quoted for large quantities. Send full details of approx. requirements and get lowest estimates. All quotations subject to prompt reply.

PRAIRIE GRASS—
N.Z. grown, excellent germination .. 12/6 bus.
RIB GRASS .. 6d. lb.
½-cwt. lots and over 50/– cwt.

G. & N. CLOVERS

Sow mixed, 4 to 6 lb. per acre.
Alone, sow 10 to 15 lb. per acre.

SUBTERRANEAN CLOVER—
Subterranean, (re-cleaned Special), excellent value .. .. 1/6 lb.
½-cwt. lots .. .. .. 1/5 lb.
Cwt. lots and over .. .. 1/4 lb.
Standard quality .. .. 1/4 lb.
½-cwt. lots .. .. .. 1/3 lb.
Cwt. lots and over .. .. 1/2 lb.
Giant Colonial Cowgrass (Perennial Red Clover) .. .. .. 1/2 lb.
½-cwt. lots and over .. 120/– cwt.
English Wild White, New Zealand grown (certified) .. .. 2/6 lb.
Strawberry (shelled), N.Z. grown 7/6 lb.
Crimson or Scarlet Italian .. 1/– lb.
Sweet or Bokhara .. .. 1/– lb.

When cash accompanies Order packing is free; No charge for sacks

G&N GIPPSLAND & NORTHERN CO-OPERATIVE CO LTD
492-4 Flinders Lane Melbourne C.1.

SEEDS

64-page Seed Guide, also Seed Samples forwarded free on request

(W.-McF.)

PLANT NOW FRUIT TREES

Best sorts usual planting size, 1s. each, 10s. doz., 70s. 100; extra strong, 1s. 6d. each, 15s. doz. Oranges, balled, 4s. each. Persimmons, Mulberry, 2s. 6d. each. Hazel, Filbert, Chestnut, Walnut, 1s. each. Gooseberry, Currant, 3s. doz. Raspberry, Asparagus, 1s. doz., 6s. 100. Loganberry, 4s. doz. Lawtonberry, 2s. doz.. Rhubarb Grapes, 6d. each, 5s. doz. Strawberry, Melba, Sunbeam, Wilson's Pride, 9d. doz., 2s. 6d. 100; new sort, 1s. 6d. doz. Oak, Planes, Ash, Beech, Birch, Holly, Elm, Maples, 1s. 6d. to 3s. each. Laburnum, Sycamore, Poplar, Weigelia, Robinia, Lantern, Buddlea, Lilac, Mock Orange, Bamboo, Willows, Broom, Japonica, Genista, Barbery, Rhus, Lantana, 1s. each. Arbutus, Myrtle, Eugenia, Oleander, Hakea, Tamarix, Heath, Bottlebrush, Ceanothus, Euonymus, Kerria, Snowball, 1s. 6d. each. Azalia, Boronia, Lily of the Valley tree, 2s. each. Rhododendrons, Camellias, 3s. 6d. each. Weeping, Purpleleaf, and flowering fruit trees, Anzac bush, Lasiandra, 1s. 3d. each. Weeping Elms, 10s. each. Hedges, Privet green, 1s. 6d. doz., 10s. 100; golden, 2s. doz., 12s. 100; variegated, 4s. doz., 25s. 100. Sugar and Mahogany gums, Boobyalla, 7s. doz., 45s. 100. Cypress, Wattles, Pines, Tree lucerne, 8s. doz., 50s. 100. Pines and Tree lucerne, from open ground, 3s. doz., 18s. 100. Lambert-Horiz, 30s. doz. Roses, bush and climbing, 1s. each, 11s. doz.; standards, 2s. 9d. each, 29s. doz. Gladioli mixed, Christmas and Tiger Lilies, 6d. each, 4s. 6d. doz. Tuberose, Iris, Canna, Yucca, Lavender, 4s. doz., Easter daisy, Salvia, Golden Rod, 3s. doz. Violets, Shasta daisy, 1s. doz.

A. NIGHTINGALE, Nursery, Emerald, Victoria

Employers!

Read these reasons why you should insure in your OWN OFFICE

1. All Policies are guaranteed by the Government and participate in profits.

2. The Cash Bonus Certificates issued by the Department can be cashed for their full face value without any conditions or restrictions.

3. The Office is conducted on purely co-operative lines and distributes its profits periodically, and all Employers benefit by the reductions made in premiums, which ensures to Policy-holders absolutely the best terms offered by any Office in the State.

4. The Office was established in the interests of all sections of the community—Employers and Employees alike—and not for revenue purposes. Insurance at "Cost Price" can, therefore, be given.

5. Claims are most promptly and equitably settled,

6. The Office is economically managed, and it has demonstrated that State Insurance can be provided at less than one half the cost which is usual with Insurance business.

Policy No. G 9333. An instance of what the State Office has done—

A Sawmill Proprietor paid an Annual Premium of ..	£155
Therefore in three years he had paid	£465
But he received in discounts	£116
And his Cash Bonus amounted to	£107

TOTAL RETURNED in Discount and Bonus — £223 out of £465

(The name of Policy-holder will be supplied on application)

Cash Bonuses Distributed Every Three Years

means

All Net Profits are returned to Policy-holders

*The **Government Insurance** Office belongs to the people; consequently Government Insurance is insurance **by the people for the people***

State Accident Insurance Office

OXFORD CHAMBERS, 473 BOURKE ST., MELBOURNE

By Authority: H. J. GREEN, Government Printer, Melbourne.

THE VICTORIA HERD

of

Red Poll Cattle

Maintained for Milk and Beef at the State Research Farm, Werribee.

FOR SALE

3 BULL CALVES — 3 BULL CALVES

All are progeny of tuberculin-tested stock, and of cows tested in the Standard Herd Test. All are eligible for Registration in the Red Poll Herd Book of Australasia

1.
Born ... ... 19th May, 1931
Sire ... ... Dominion Bright Belgian
Dam ... Victoria La Regal (718 A)

25 Guineas

2.
Born ... ... 30th December, 1930
Sire ... Earl of Beaconsfield (35 AA)
Dam ... ... Victoria Velbit (2341 A)

17 Guineas

3.
Born .. ... 11th February, 1931
Sire .. ... Dominion Bright Belgian
Dam ... Victoria Euphrates (716 A)

24 Guineas

The prices quoted are based on the butter-fat production of the dam at the rate of 1/- per lb., except in the case of progeny of heifers without completed test, the price then being 10 guineas

---

Inspection cordially invited. For further particulars apply to—

DR. S. S. CAMERON, DIRECTOR OF AGRICULTURE, MELBOURNE, C.2;
OR THE MANAGER, STATE RESEARCH FARM, WERRIBEE.

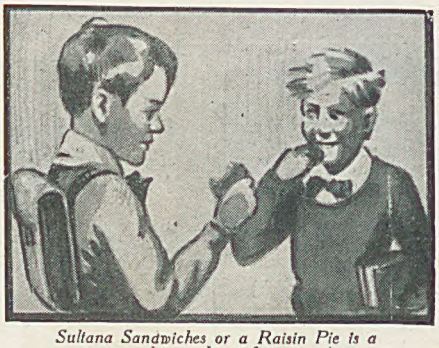
Eat more

Currants Sultanas Raisins

Eat more

Nature's Own Confections

Raisins or Currants in Breakfast Porridge substract from the sugar bill and add to health



Sultana Sandwiches or a Raisin Pie is a complete and satisfying meal

Finish the Dinner with a Steam Pudding. Plenty of Raisins make it a favourite dish

Australian Sultanas

contain the

Highest Food Values

ONE POUND of Sultanas represents an Energising Food Value equal to:—

- 1½ lb. Beef
- 6 lb. Apples
- 5 lb. Bananas
- 4½ lb. Potatoes
- 4 lb. Milk
- 20 Eggs

Sultana Sandwiches

for the

Daily Lunch

Remember !

That Australian Dried Fruits are processed and packed under Government Supervision with scrupulous care and under most hygienic conditions

Write or 'phone for the FREE Sunshine Cookery Book

VICTORIAN DRIED FRUITS BOARD

623 COLLINS STREET, MELBOURNE 'PHONE, CENT. 9216

SP 630-5 V645